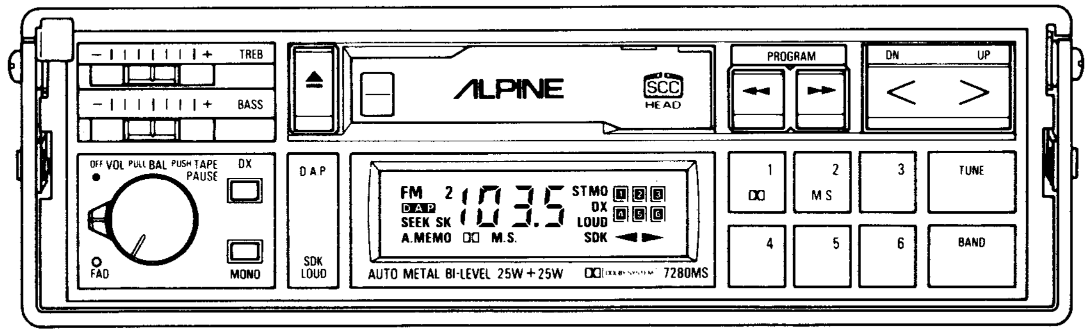
ALPINE SERVICE MANUAL

Digital Tuner Cassette

- For the cassette deck mechanism parts (GT75L110) of this model, refer to the GT Series Service Manual (Part No. 68P92539F03).


TREB
BASS
ALPINE
SCC HEAD
PROGRAM
DN
UP
OFF VOL PULL BAL PUSH TAPE PAUSE
DX
FAD
MONO
DAP
SDK LOUD
FM 2
DAP
SEEK SK
103.5
A.MEMO
M.S.
STMO
DX
LOUD
SDK
AUTO METAL BI-LEVEL 25W+25W
7280MS
1
2
MS
3
TUNE
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6
BAND

7280MS/LS/ES

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Specifications

FM RADIO

Intermediate Frequency	10.7±0.1MHz
Frequency Range	87.5 to 108MHz
Usable Sensitivity (Stereo at 98.1MHz)	19.2dBf (7280MS/LS Models Only) 17.2dBf (7280ES Model Only)
S/N Ratio (Stereo at 98.1MHz)	50dB (7280MS/LS Models Only) 48dB (7280ES Model Only)
Image Rejection (at 106.1MHz)	40dB
IF Rejection (at 90.1MHz)	60dB
Distortion (Input 1mV at 98.1MHz)	1%
Frequency Response (Ref. 400Hz) (100Hz)	0±3dB
(10kHz)	−12±3dB
Stereo Separation (at 1,000Hz)	25dB (7280MS/LS Models Only) 20dB (7280ES Model Only)
Limiting Sensitivity (98.1MHz)	14.2±5dBf (7280MS/LS Models Only)

AM RADIO (7280ES Model Only)

Imtermediate Frequency	450kHz
Frequency Range	531 to 1,602kHz
Sensitivity 20dB S/N (at 999kHz)	45.2dBf
S/N Ratio (at 999kHz)	44dB
Image Rejection (at 1,404kHz)	44dB
IF Rejection (at 603kHz)	60dB
Distortion (999kHz)	2%
Frequency Response	−3±5dB (100Hz) −12±5dB (4kHz)

MW Radio (7280MS/LS Models Only)

Intermediate Frequency	450±5kHz
Frequency Range	531 to 1,602kHz
Sensitivity 20dB S/N (at 999kHz)	45.2dBf
S/N Ratio (at 999kHz)	44dB
Image Rejection (at 1,404kHz)	45dB
IF Rejection (at 603kHz)	60dB
Distortion (at 999kHz)	1%
Frequency Response	−3±3dB (100Hz) −12±6dB (4kHz)

LW RADIO (7280MS/LS Models Only)

Intermediate Frequency	450±5kHz
Frequency Range	153 to 281kHz
Sensitivity 20dB S/N (at 216kHz)	48.2dBf
S/N Ratio (at 216kHz)	40dB
Image Rejection (at 270kHz)	40dB
IF Rejection (at 216kHz)	50dB
Distortion (at 400kHz)	1.5%
Frequency Response	−3±3dB (100Hz) −12±6dB (4kHz)

TAPE PLAYER

Wow & Flutter (JIS, WRMS/MTT-111)	0.25%
Tape Speed (MTT-111)	4.76cm/sec $\pm\,^{3}_{1}$ %
Signal to Noise Ratio (MTT-212N)	Dolby OFF : 50dB (7280MS/LS Models Only) Dolby OFF : 52dB (7280ES Model Only) Dolby B : 58dB
Distortion (MTT-118)	2%
Frequency Response (MTT-256)	63Hz : −3dB 12.5kHz : −3dB
Separation (MTT-141)	30dB
Crosstalk (MTT-121)	45dB
FF & RWD Time (C-60)	100sec

GENERAL

Load Impedance	4 ohms (Speaker Out)
Power Supply	14.4V DC
Power-Output (10% THD)	9W/ch
Pre-Output Level/Impedance	1.2mV/10k ohm
Chassis Dimension (W × H × D)	178 × 50 × 160mm (7280MS/LS Models Only) 178 × 50 × 153mm (7280ES Model Only)
Nose Dimension (W × H × D)	176 × 50 × 11mm (7280MS/LS Models Only) 171 × 48 × 15mm (7280ES Model Only)
Weight	1.7kg (7280MS/LS Models Only) 1.8kg (7280ES Model Only)
Semiconductors	11 IC's, 45 Transistors, 46 Diodes, 13 Zener Diodes, 1 FET (7280ES Model Only) 13 IC's, 58 Transistors, 51 Diodes, 15 Zener Diodes, 1 FET (7280MS Model Only) 11 IC's, 47 Transistors, 43 Diodes, 15 Zener Diodes, 1 FET (7280LS Model Only)

NOTE : Due to continuing product improvement, specifications and designs are subject to change without notice.

FEATURES

[7280MS model only]

- **FULL FRONT DIN™**
- **T-10 II TUNER**
  Alpine's premier tuner — utilizes a number of innovations to ensure stable, noise-free FM reception in both strong and weak signal areas.
- **QUICK RELEASE BRACKET (Q.R.B.)**
  Alpine's exclusive QRB design allows for easy removal of the 7280MS, while still maintaining memory backup. The 7280MS may then be hidden elsewhere in the car or carried with the owner for theft prevention. This bracket also provides for easy re-installation of the unit.
- **SCC TAPE HEAD™**
  Provides extended tape head life, high frequency response, and is ideal for use with metal tape.
- **DOLBY* B NOISE REDUCTION**
  Increases dynamic range of Dolby encoded tapes while reducing hiss, providing up to a 10 dB improvement in noise reduction.
- **MUSIC SENSOR IN FAST FORWARD AND FAST BACKWARD**
  In FAST FORWARD, it automatically scans forward to the next song on a tape and begins playback. In FAST BACKWARD, it scans backward to the beginning of the current selection and begins playback.
- **IGNITION "KEY-OFF" PAUSE**
  The tape disengages from the tape head, capstan, and pinch roller when the ignition is turned off, but it remains inside the cassette compartment.
- **AUTO METAL**
  When a metal cassette tape is inserted, the tape mechanism automatically adjusts to metal tape equalization.
- **TAPE PAUSE**
  When activated, the tape disengages from the tape head, capstan, and pinch roller, but remains inside the cassette compartment. The mode switches automatically from tape to radio.
- **AUTO TUNE SELECT SWITCH**
  This switch is for selecting between the SEEK and MANUAL Tuning modes.
- **AUTO UP/DOWN SEEK**
  Automatically tunes to the next higher frequency or lower frequency and locks on that station.
- **PRESET ADDRESS**
  The preset number is displayed in the LCD, next to its assigned station frequency (in Radio mode).
- **SELECTABLE FADER**
  This system allows you to select either the pre-amp or power amp fader mode. The pre-amp fader controls the signal level in the pre-amp stage for two amplifiers, and the power amp fader balances the front and rear speaker sound in a four-speaker system.
- **DIGITAL PLL FREQUENCY SYNTHESIZER**
- **CASSETTE AUTO REVERSE**
- **SEPARATE BASS & TREBLE CONTROLS**
- **A. MEMO (AUTO MEMORY)**
  In the A.MEMO mode, 6 of the strongest MW, LW or FM stations will be stored automatically.
- **D.A.P. (DIRECT ACCESS PRESET)**
- **LITETOUCH™ 30-STATION PRESETS**
  FM1: 6, FM2: 6, MW: 6, LW: 6, D.A.P.: 6
- **LITETOUCH™ PLAY/PROGRAM SWITCH**
- **LITETOUCH™ TAPE PAUSE**
- **36-DETENT VOLUME CONTROL**
- **TAPE DIRECTION INDICATOR**
- **STEREO INDICATOR**
- **MEMORY LOGIC ELECTRONICS**
- **POWER ANTENNA LEAD**

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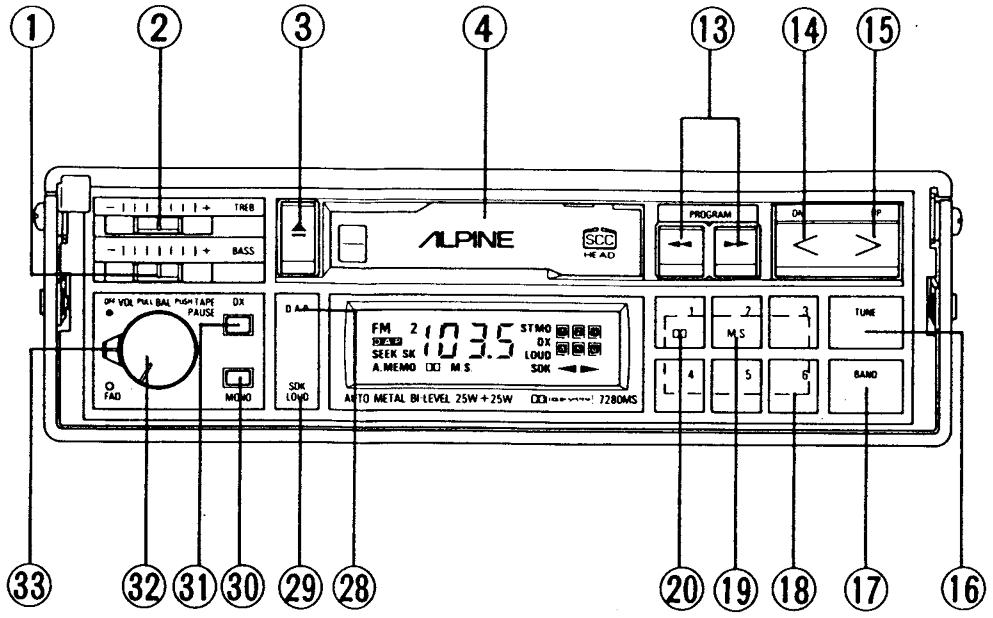
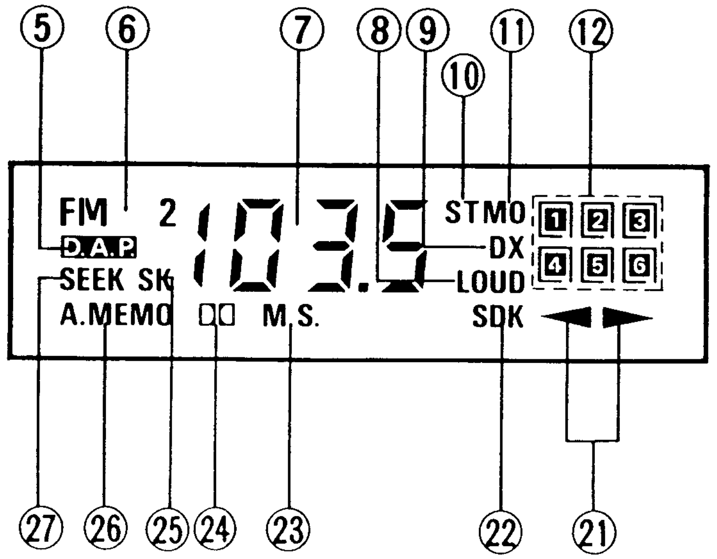
CONTROLS AND INDICATORS

[7280MS model only]





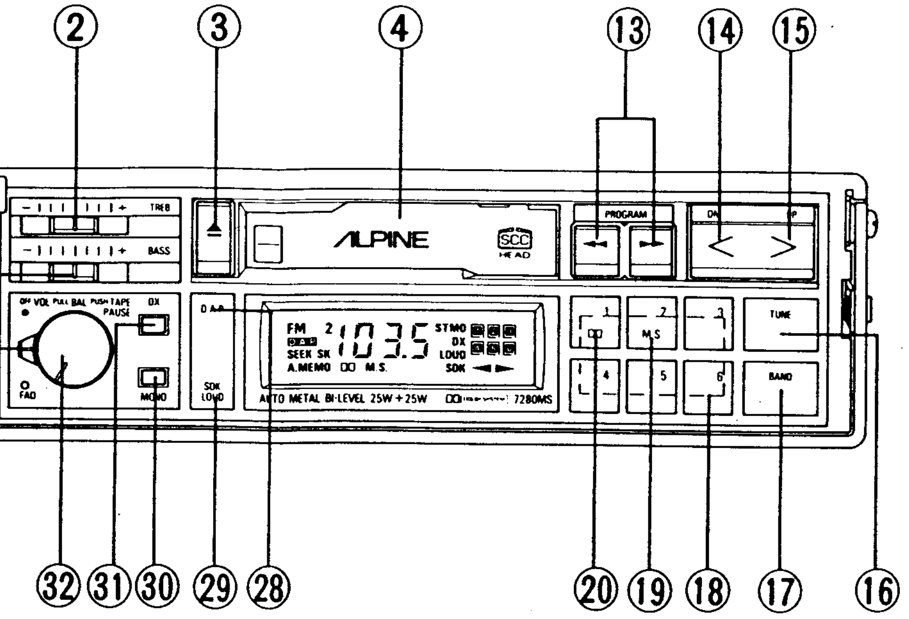
CONTROLS AND INDICATORS

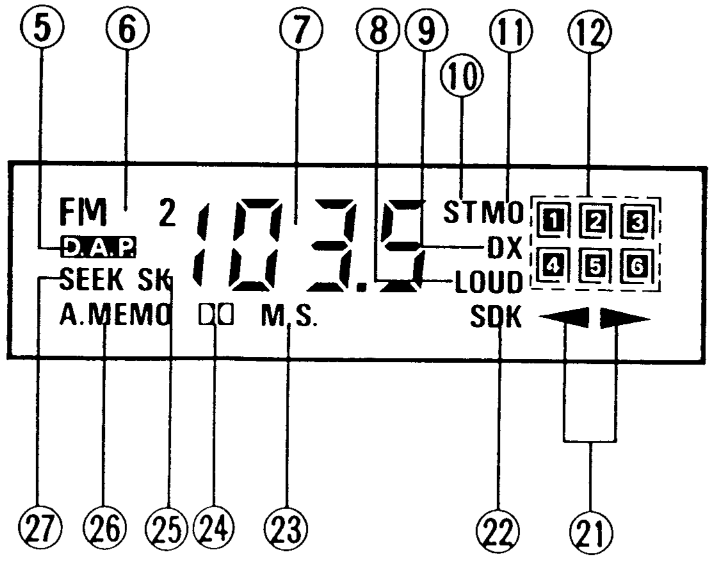
① **BASS Control**
② **TREBle Control**
③ **EJECT Switch**
④ **Cassette Loading Slot**
⑤ **D.A.P. (Direct Access Preset) Indicator**
⑥ **Radio Band Indicator**
⑦ **Frequency Indicator**
⑧ **LOUDness Indicator**
⑨ **DX (Local/Distance) Indicator**
⑩ **FM Stereo Reception Indicator (ST)**
⑪ **Monaural Indicator (MO)**
⑫ **Preset Address Indicators**
⑬ **PROGRAM/FF & REW Switches**
⑭ **Tuning (DN) Switch**
⑮ **Tuning (UP) Switch**
⑯ **TUNE Switch**
⑰ **BAND Select Switch**
⑱ **Station Preset Switches (Radio Mode)**
⑲ **Music Sensor [M.S.] Switch (Tape Mode)**
⑳ **DOLBY B-Type NR Switch (Tape Mode)**
㉑ **Tape Direction Indicator**
㉒ **SDK Indicator**
㉓ **Music Sensor [M.S.] Indicator**
㉔ **DOLBY NR Indicator**
㉕ **SK Indicator**
㉖ **Auto MEMOry Indicator**
㉗ **SEEK Tuning Indicator**
㉘ **D.A.P. (Direct Access Preset) Switch**
㉙ **SDK/LOUDness** Switch**
㉚ **Monaural Switch (MONO)**
㉛ **DX (Local/Distance) Switch**
㉜ **Power on/OFF Switch/VOLume Control/BALance Control (Pull)/TAPE P**
Switch (Push)
㉝ **FADer Control**

** For Loudness control, keep pressing this switch for 3 seconds or longer.

CONTROLS AND INDICATORS

MS model only]





CONTROLS AND INDICATORS

① **BASS Control**
② **TREBle Control**
③ **EJECT Switch**
④ **Cassette Loading Slot**
⑤ **D.A.P. (Direct Access Preset) Indicator**
⑥ **Radio Band Indicator**
⑦ **Frequency Indicator**
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㉕ **SK Indicator**
㉖ **Auto MEMOry Indicator**
㉗ **SEEK Tuning Indicator**
㉘ **D.A.P. (Direct Access Preset) Switch**
㉙ **SDK/LOUDness** Switch**
㉚ **Monaural Switch (MONO)**
㉛ **DX (Local/Distance) Switch**
㉜ **Power on/OFF Switch/VOLume Control/BALance Control (Pull)/TAPE PAUSE Switch (Push)**
㉝ **FADer Control**

** For Loudness control, keep pressing this switch for 3 seconds or longer.

FEATURES

[7280LS model only]

- **FULL FRONT DIN™**
- **T-10 II TUNER**
  Alpine's premier tuner — utilizes a number of innovations to ensure stable, noise-free FM reception in both strong and weak signal areas.
- **QUICK RELEASE BRACKET (Q.R.B.)**
  Alpine's exclusive QRB design allows for easy removal of the 7280LS, while still maintaining memory backup. The 7280LS may then be hidden elsewhere in the car or carried with the owner for theft prevention. This bracket also provides for easy re-installation of the unit.
- **SCC TAPE HEAD™**
  Provides extended tape head life, high frequency response, and is ideal for use with metal tape.
- **DOLBY* B NOISE REDUCTION**
  Increases dynamic range of Dolby encoded tapes while reducing hiss, providing up to a 10 dB improvement in noise reduction.
- **MUSIC SENSOR IN FAST FORWARD AND FAST BACKWARD**
  In FAST FORWARD, it automatically scans forward to the next song on a tape and begins playback. In FAST BACKWARD, it scans backward to the beginning of the current selection and begins playback.
- **IGNITION "KEY-OFF" PAUSE**
  The tape disengages from the tape head, capstan, and pinch roller when the ignition is turned off, but it remains inside the cassette compartment.
- **AUTO METAL**
  When a metal cassette tape is inserted, the tape mechanism automatically adjusts to metal tape equalization.
- **TAPE PAUSE**
  When activated, the tape disengages from the tape head, capstan, and pinch roller, but remains inside the cassette compartment. The mode switches automatically from tape to radio.
- **AUTO TUNE SELECT SWITCH**
  This switch is for selecting between the SEEK and MANUAL Tuning modes.
- **AUTO UP/DOWN SEEK**
  Automatically tunes to the next higher frequency or lower frequency and locks on that station.
- **PRESET ADDRESS**
  The preset number is displayed in the LCD, next to its assigned station frequency (in Radio mode).
- **SELECTABLE FADER**
  This system allows you to select either the pre-amp or power amp fader mode. The pre-amp fader controls the signal level in the pre-amp stage for two amplifiers, and the power amp fader balances the front and rear speaker sound in a four-speaker system.
- **DIGITAL PLL FREQUENCY SYNTHESIZER**
- **CASSETTE AUTO REVERSE**
- **SEPARATE BASS & TREBLE CONTROLS**
- **A. MEMO (AUTO MEMORY)**
  In the A.MEMO mode, 6 of the strongest MW, LW or FM stations will be stored automatically.
- **D.A.P. (DIRECT ACCESS PRESET)**
- **RADIO MONITOR**
  The radio plays in FF and REWIND.
- **LITETOUCH™ 30-STATION PRESETS**
  FM1: 6, FM2: 6, MW: 6, LW: 6, D.A.P.: 6
- **LITETOUCH™ PLAY/PROGRAM SWITCH**
- **LITETOUCH™ TAPE PAUSE**
- **36-DETENT VOLUME CONTROL**
- **TAPE DIRECTION INDICATOR**
- **STEREO INDICATOR**
- **MEMORY LOGIC ELECTRONICS**
- **POWER ANTENNA LEAD**

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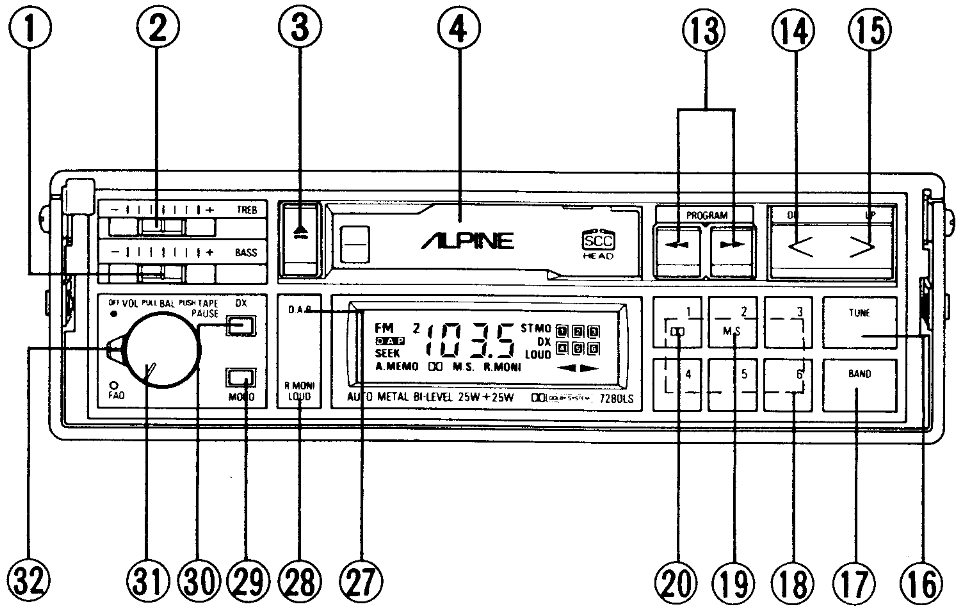
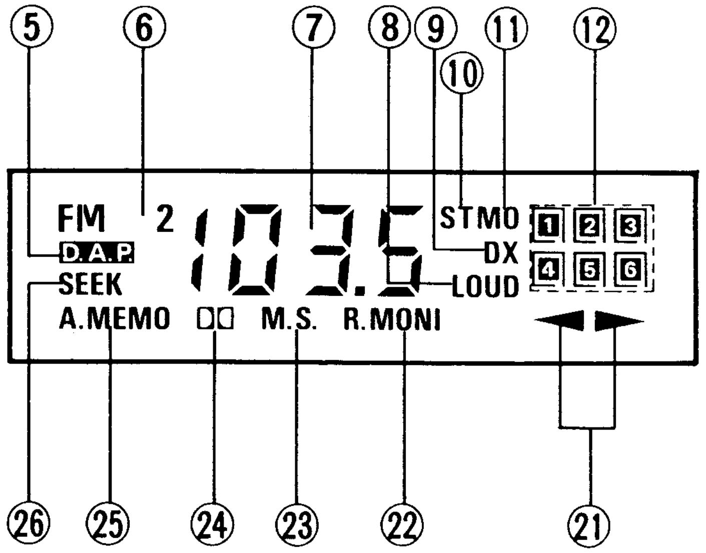
CONTROLS AND INDICATORS

[7280LS model only]





CONTROLS AND INDICATORS

① **BASS Control**
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③ **EJECT Switch**
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⑲ **Music Sensor [M.S.] Switch (Tape Mode)**
⑳ **DOLBY B-Type NR Switch (Tape Mode)**
㉑ **Tape Direction Indicator**
㉒ **Radio Monitor Indicator (R.MONI)**
㉓ **Music Sensor [M.S.] Indicator**
㉔ **DOLBY NR Indicator**
㉕ **Auto MEMOry Indicator**
㉖ **SEEK Tuning Indicator**
㉗ **D.A.P. (Direct Access Preset) Switch**
㉘ **R.MONI/LOUDness** Switch**
㉙ **Monaural Switch (MONO)**
㉚ **DX (Local/Distance) Switch**
㉛ **Power on/OFF Switch/VOLume Control/BALance Control (Pull)/TAPE PAUSE Switch (Push)**
㉜ **FADer Control**

** For Loudness control, keep pressing this switch for 3 seconds or longer.

FEATURES

[7280ES model only]

- ● **FULL FRONT DIN™**
- ● **QUICK RELEASE BRACKET (Q.R.B.)**
  Alpine's exclusive QRB design allows for easy removal of the 7280ES while maintaining memory backup. The 7280ES may then be carried the owner for theft prevention. This QRB also provides for easy reinstallation of the unit.
- ● **T-10 II TUNER**
  Alpine's premier tuner utilizes several innovative circuits to ensure sta noise-free FM reception in both strong and weak signal areas.
- ● **SCC TAPE HEAD™**
  Provides extended tape head life, high frequency response, and is ide use with metal tape.
- ● **DOLBY* B NOISE REDUCTION**
  Increases dynamic range of Dolby encoded tapes while reducing hiss, providing up to a 10 dB improvement in signal-to-noise ratio.
- ● **RADIO MONITOR**
  Allows you to listen to the FM/AM Tuner while the tape is in the fast forward or rewind modes.
- ● **A. MEMO (AUTO MEMORY)**
  In this mode, the tuner will automatically store the 6 strongest FM or stations into preset memory.
- ● **D.A.P. (DIRECT ACCESS PRESET)**
  This feature allows you to mix FM and AM presets on the same band This eliminates the need to press the BAND select switch to choose between FM and AM stations.
- ● **MUSIC SENSOR (M.S.)**
  Activating the MUSIC SENSOR (tape mode only) allows you to skip a to the beginning of the next musical track on the tape or return to the beginning of the current musical track.
- ● **IGNITION "KEY-OFF" PAUSE**
  When the ignition is turned off, the tape head and pinch roller diseng from the tape while the cassette remains inside the deck.
- ● **AUTO METAL**
  When a metal cassette tape is inserted, the tape mechanism automa adjusts to metal tape equalization.
- ● **TAPE PAUSE**
  When activated, the tape head and pinch roller disengage from the t while the cassette remains inside the deck. This is used to tempora stop tape playback. The mode automatically switches from tape to r
- ● **AUTO UP/DOWN SEEK**
  Automatically tunes to the next higher frequency or lower frequency locks on that station.
- ● **PRESET ADDRESS**
  The preset number is displayed in the LCD, next to its assigned stati frequency (in Radio mode).

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CONTROLS AND INDICATORS

SS Control
EBle Control
ECT Switch
ssette Loading Slot
.P. (Direct Access Preset) Indicator
dio Band Indicator
quency Indicator
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ND Select Switch
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dio Monitor Indicator (R.MONI)
sic Sensor [M.S.] Indicator
LBY NR Indicator
to MEMOry Indicator
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IONI/LOUDness Switch**
naural Switch (MONO)
(Local/Distance) Switch
wer on/OFF Switch/VOLume Control/BALance Control (Pull)/TAPE PAUSE
itch (Push)
Der Control

Loudness control, keep pressing this switch for 3 seconds or longer.

FEATURES

[7280ES model only]

- **FULL FRONT DIN™**
- **QUICK RELEASE BRACKET (Q.R.B.)**
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- **T-10 II TUNER**
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- **SCC TAPE HEAD™**
  Provides extended tape head life, high frequency response, and is ideal for use with metal tape.
- **DOLBY* B NOISE REDUCTION**
  Increases dynamic range of Dolby encoded tapes while reducing hiss, providing up to a 10 dB improvement in signal-to-noise ratio.
- **RADIO MONITOR**
  Allows you to listen to the FM/AM Tuner while the tape is in the fast forward or rewind modes.
- **A. MEMO (AUTO MEMORY)**
  In this mode, the tuner will automatically store the 6 strongest FM or AM stations into preset memory.
- **D.A.P. (DIRECT ACCESS PRESET)**
  This feature allows you to mix FM and AM presets on the same band. This eliminates the need to press the BAND select switch to choose between FM and AM stations.
- **MUSIC SENSOR (M.S.)**
  Activating the MUSIC SENSOR (tape mode only) allows you to skip ahead to the beginning of the next musical track on the tape or return to the beginning of the current musical track.
- **IGNITION "KEY-OFF" PAUSE**
  When the ignition is turned off, the tape head and pinch roller disengage from the tape while the cassette remains inside the deck.
- **AUTO METAL**
  When a metal cassette tape is inserted, the tape mechanism automatically adjusts to metal tape equalization.
- **TAPE PAUSE**
  When activated, the tape head and pinch roller disengage from the tape while the cassette remains inside the deck. This is used to temporarily stop tape playback. The mode automatically switches from tape to radio.
- **AUTO UP/DOWN SEEK**
  Automatically tunes to the next higher frequency or lower frequency and locks on that station.
- **PRESET ADDRESS**
  The preset number is displayed in the LCD, next to its assigned station frequency (in Radio mode).

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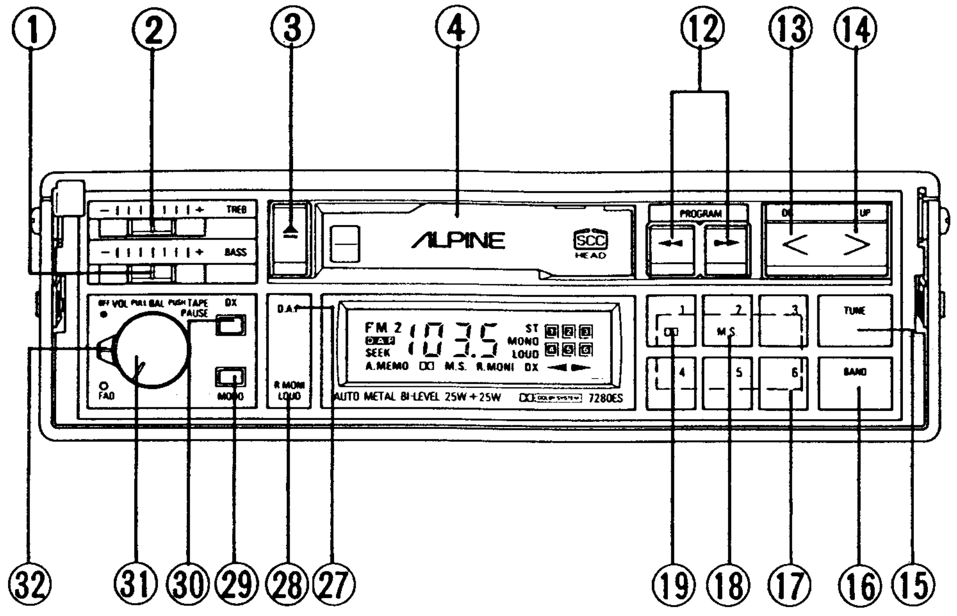
FEATURES

- **SELECTABLE FADER**
  This system allows you to select either the pre-amp or power amp fader mode. The pre-amp fader controls the signal level in the pre-amp stage for two amplifiers, and the power amp fader balances the front and rear speaker sound in a four-speaker system.
- **DIGITAL PLL FREQUENCY SYNTHESIZER**
- **SEPARATE BASS & TREBLE CONTROL**
- **LITETOUCH™ 24-STATION PRESET**
  FM 1 : 6, FM 2 : 6, AM : 6, D.A.P.: 6.

CONTROLS AND INDICATORS

[7280ES model only]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TREB
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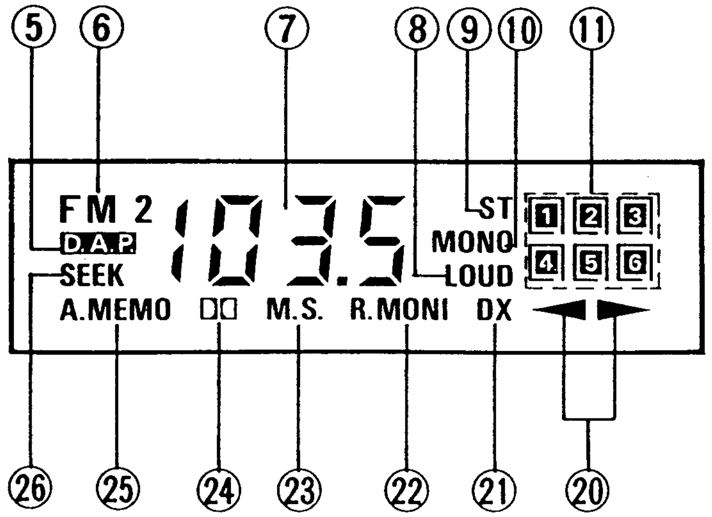
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FM 2
D.A.P.
SEEK
103.5
ST
MONO
LOUD
1
2
3
4
5
6
A.MEMO
M.S.
R.MONI
DX
㉖
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㉔
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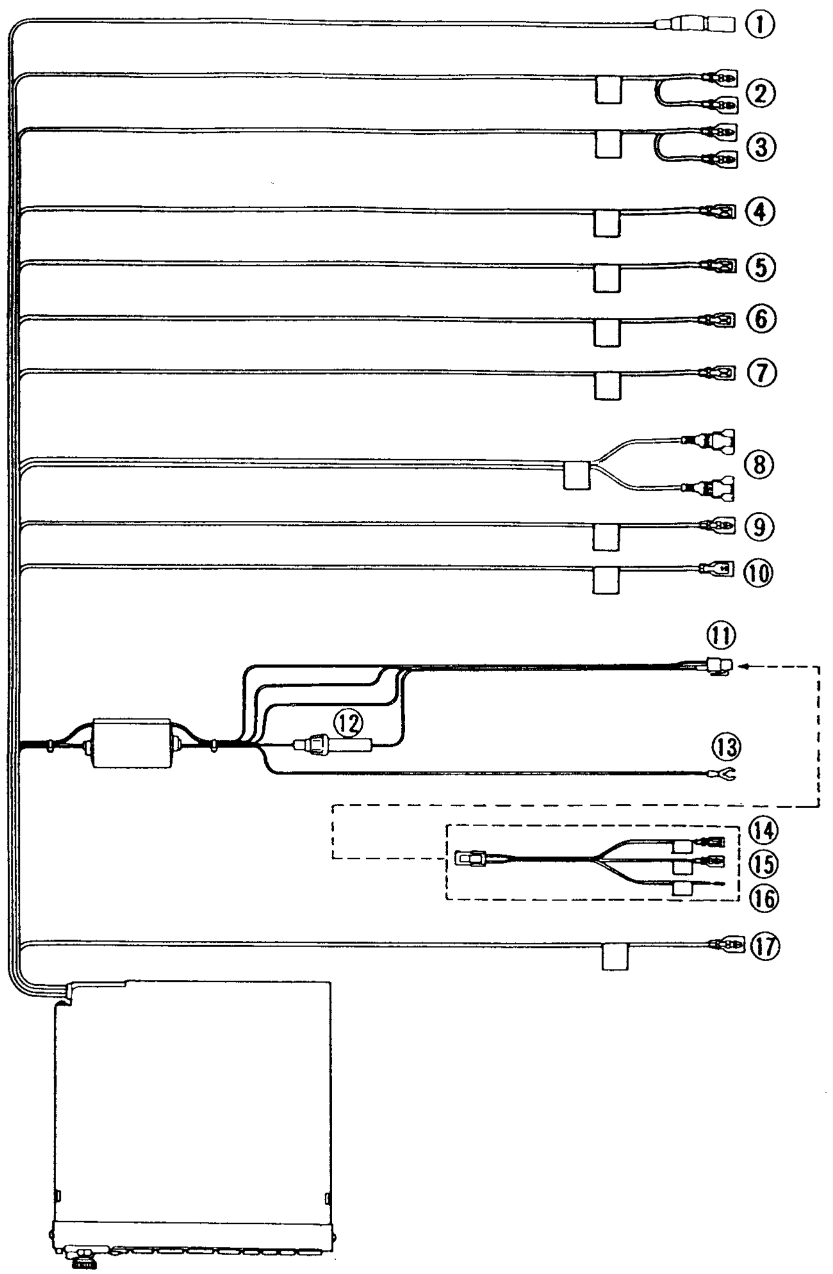
⑳

CONTROLS AND INDICATORS

① **BASS Control**
② **TREBle Control**
③ **EJECT Button**
④ **Cassette Loading Slot**
⑤ **D.A.P. (Direct Access Preset) Indicator**
⑥ **Radio Band Indicator**
⑦ **Frequency Indicator**
⑧ **LOUDness Indicator**
⑨ **FM STereo Reception Indicator**
⑩ **Monaural Indicator (MONO)**
⑪ **Preset Address Indicator**
⑫ **FF & REW/PROGRAM Buttons**
⑬ **Tuning (DN) Button**
⑭ **Tuning (UP) Button**
⑮ **TUNE Select Button (Manual, SEEK, and A.MEMO)**
⑯ **BAND Select Button**
⑰ **Station Preset Buttons (Radio Mode)**
⑱ **Music Sensor [M.S.] Button (Tape Mode)**
⑲ **DOLBY* B NR Button (Tape Mode)**
⑳ **Tape Direction Indicator**
㉑ **DX (Local/Distance) Indicator**
㉒ **Radio MONItor Indicator**
㉓ **Music Sensor [M.S.] Indicator**
㉔ **DOLBY* NR Indicator**
㉕ **Auto MEMory Indicator**
㉖ **SEEK Tuning Indicator**
㉗ **D.A.P. (Direct Access Preset) Button**
㉘ **Radio MONItor/LOUDness** Button**
㉙ **Monaural [MONO] Button**
㉚ **DX (Local/Distance) Button**
㉛ **Power On/OFF Switch/VOLume Control/BALance Control (Pull)/TAPE PAUSE Button (Push)**
㉜ **FADer Control**

** To activate the Loudness feature, press and hold the button ㉘ for at least 3 seconds.

CONNECTIONS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CONTROLS AND INDICATORS

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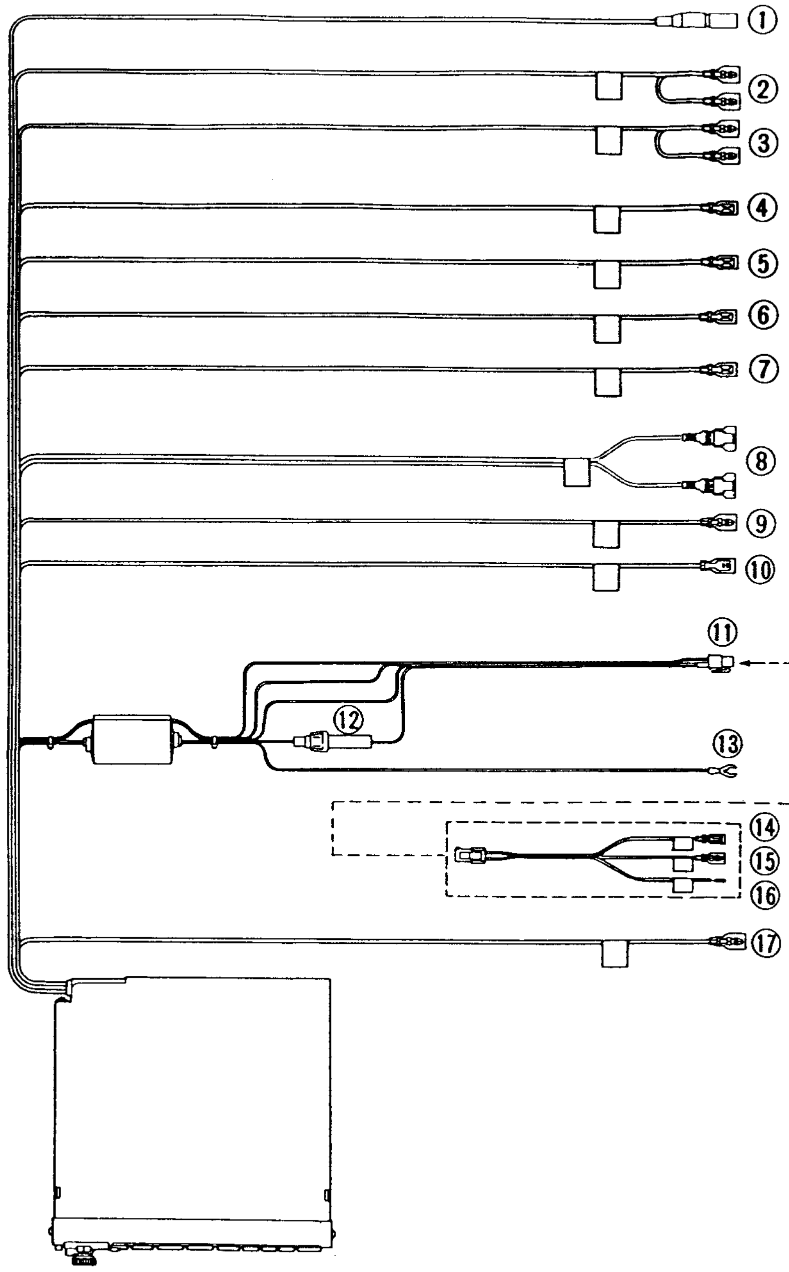
CONNECTIONS



CONNECTIONS

① **Antenna Receptacle**
② **Left Speaker Output Lead (Common) (White/Black)**
③ **Right Speaker Output Lead (Common) (Gray/Black)**
④ **Left Front Speaker Output Lead (White)**
⑤ **Right Front Speaker Output Lead (Gray)**
⑥ **Left Rear Speaker Output Lead (Green)**
⑦ **Right Rear Speaker Output Lead (Violet)**
⑧ **OUTPUT RCA Connector (White: Left/Red: Right)**
RCA type connectors are for connecting the unit to a unit having RCA type input terminals.
⑨ **Audio Interrupt Out Lead (Pink/White)**
Connect to the Audio Interrupt In Lead of another unit that has the Audio Interrupt In Lead.
⑩ **POWER ANTENNA Lead (Blue)**
Connect the power antenna control lead (Blue) to the connector of full automatic power antenna. Power antenna control does not work with semi-automatic or manually operated antenna.
⑪ **POWER Supply Connector**
⑫ **FUSE HOLDER (5A)**
⑬ **GROUND LEAD (Black)**
⑭ **REMOTE ON Lead (Blue/White)**
If the unit is connected to your Amp unit with RCA jacks, connect the remote ON lead to the male connector of the Amp unit's remote ON lead.
⑮ **ACC POWER Lead (Red)**
This lead is to be connected to an ignition terminal in the vehicle's fuse box or a terminal which develops + 12V when the ignition is turned on.
⑯ **BATTERY Lead (Yellow)**
⑰ **Dimmer Control Lead (White/Blue)**
Dimmer Control Lead is for connection with another component featuring auto dimmer. When connection is made, all dimmers will be synchronized. Leave the lead disconnected if the Alpine unit is the only component in your system that has auto dimmer.

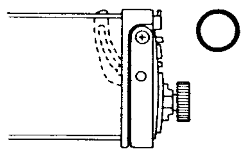
CAUTION:
Before connecting any wire, set the volume level to minimum by turning the VOLume control counterclockwise.

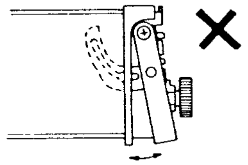
PRECAUTIONS

1. When replacing the fuse(s), the replacement must be of the same amperage as shown on the fuse holder. If the fuse(s) blows more than once, carefully check all electrical connections for shorted circuitry. Have your car's voltage regulator checked also. Do not attempt to repair the unit yourself; return the unit to your Alpine dealer or the nearest Alpine Service Station for servicing.
2. In order to ensure proper performance, be sure the temperature in your car is within the range of 14°F (—10°C) to 140°F (60°C) before turning your player on. Good air circulation is essential, especially in hot weather, to prevent internal heat build-up in the unit.
3. C-120 type cassette tapes are not recommended for use in automobile tape players.
4. Prevent any foreign objects from entering the cassette opening as the precision mechanism and tape head may be damaged.
5. To protect your cassette tapes, store them in a cool place away from dust, dirt, and strong magnetic sources such as speaker, electric motors and TV sets.
6. Check and make sure any slack in the tape is taken up before inserting the tape into the unit. A loose tape could cause damage to the unit and the tape itself. Tighten the cassette by inserting a pencil or a similar instrument into the spindle hole and turn until all the slack has been taken up.

CLEANING
When playback sound begins to deteriorate, it is time to clean the playback head. Insert a special head cleaning cassette into the tape-loading slot and allow it to run for a few minutes to remove any foreign matter.

CAUTION: In the event of road vibration or rapid acceleration or vehicle collision, this unit may become dislodged from its case unless the handle is fully down. This could result in personal injury to occupants of the vehicle or physical damage to the unit. Please see the illustrations below for further information on how to properly secure the handle.





[7280MS model only]

NOTE: This unit has a special volume control on the bottom of the unit for adjusting the volume level for SDK reception and the alarm which will sound when there is no SK signal in the SDK mode. Set the volume control ㉜ to the minimum level position, and adjust the special volume control on the bottom of the unit to your desired level with a screwdriver.

OPERATION

● TAPE PLAYER OPERATION [7280MS model only]

1. Turn the power on by rotating the VOLume control/Power switch ㉜ clockwise. With the tape opening to the right, insert the cassette into the loading slot as far as it will go. One of the tape direction indicators ㉑ will light and the tape will start playing.
2. If a metal or CrO_2 cassette tape is inserted, the tape mechanism automatically sets itself for 70μsec equalization.
3. If a Dolby B-encoded tape is used, press the DOLBY NR B switch ⑳, to activate this NR feature.
4. Adjust the VOLume ㉜, BASS ①, TREBle ②, BALance ㉜ and FADer ㉝ controls to suit your listening preference. Tape reverses automatically at the end of the tape to play the other side.
5. To change from side A to play side B or vice versa before the end of the tape is reached, press the PROGRAM switch ⑬.
6. To stop tape play, press the EJECT switch ③.
7. To turn the power OFF, fully rotate the VOLume control counterclockwise.

● TAPE PLAYER OPERATION [7280LS model only]

1. Turn the power on by rotating the VOLume control/Power switch ㉛ clockwise. With the tape opening to the right, insert the cassette into the loading slot as far as it will go. One of the tape direction indicators ㉑ will light and the tape will start playing.
2. If a metal or CrO_2 cassette tape is inserted, the tape mechanism automatically sets itself for 70μsec equalization.
3. If a Dolby B-encoded tape is used, press the DOLBY NR B switch ⑳, to activate this NR feature.
4. Adjust the VOLume ㉛, BASS ①, TREBle ②, BALance ㉛ and FADer ㉜ controls to suit your listening preference. Tape reverses automatically at the end of the tape to play the other side.
5. To change from side A to play side B or vice versa before the end of the tape is reached, press the PROGRAM switch ⑬.
6. To stop tape play, press the EJECT switch ③.
7. To turn the power OFF, fully rotate the VOLume control counterclockwise.

● TAPE PLAYER OPERATION [7280ES model only]

1. Turn the power on by rotating the VOLume control/power switch ㉛ clockwise. With the tape opening to the right, insert the cassette into the loading slot as far as it will go. One of the tape direction indicators ⑳will light and the tape will start playing.
2. If a metal or CrO_2 cassette tape is inserted, the tape mechanism automatically sets itself for 70μsec equalization.
3. If a Dolby* B-encoded tape is used, press the DOLBY* B NR button ⑲ to activate this feature.
4. Adjust VOLume ㉛, BASS ①, TREBle ②, BALance ㉛ and FADer ㉜ controls to suit your listening preference.
5. To change from side A to play side B or vice versa before the end of the tape is reached, press the PROGRAM button (◂◂ and ▸▸ together) ⑫. The tape direction reverses automatically at the end of the tape to play the other side.
6. To stop tape play, press the EJECT button ③.
7. To turn the power off, fully rotate the VOLume control ㉛ counterclockwise.

OPERATION

Winding the Tape Rapidly in Forward or Reverse Direction [7280MS/LS mod

1. Press the PROGRAM Switch (◂◂ or ▸▸ switch) ⑬ until it locks and the tape rapidly in the designated direction.
2. Lightly press the other switch to stop the Fast Winding mode. The tape will st playing again.
3. When the Fast Winding operation reaches the end of the tape, the mode will automatically switch to playback.

Fast Forward and Rewind [7280ES model only]

1. Note which way the tape direction indicator is pointing.
2. To rapidly advance the tape, press the ◂◂ or ▸▸ button (the one p in the same direction as the tape direction indicator).
3. To rapidly rewind the tape, press the ◂◂ or ▸▸ button (the one poi the opposite direction of the tape direction indicator).
4. Press the TAPE PAUSE button ㉛ to defeat fast forward or rewind a resume playback.

Tape Pause [7280MS model only]
Push the TAPE PAUSE switch ㉜. The tape disengages from the tape head, capst pinch roller while the cassette remains in the cassette compartment. The mode s from tape to radio, and the radio frequency will be displayed. To switch from radic mode and resume tape play, press the TAPE PAUSE switch again.

Tape Pause [7280LS model only]
Push the TAPE PAUSE switch ㉛. The tape disengages from the tape head, capst pinch roller while the cassette remains in the cassette compartment. The mode s from tape to radio, and the radio frequency will be displayed. To switch from radic mode and resume tape play, press the TAPE PAUSE switch again.

Tape Pause [7280ES model only]

Push the TAPE PAUSE button ㉛. The tape head and pinch roller disenc from the tape while the cassette remains inside the tape deck. The uni automatically switch to the radio mode. To resume play, press the TAP PAUSE button ㉛ again.

Music Sensor [7280MS/LS models only]

1. With Music Sensor, you can play the next selection ahead on the tape or repla current selection. To play the next selection ahead, press the MS switch ⑲ th check to see which way the tape direction indicator is pointing. If it is ▸ , pr ▸▸ switch into the locked position. The Music Sensor will automatically loca next selection ahead and begin playback. If the tape direction indicator shows press the ◂◂ switch and the Music Sensor will automatically locate the next selection ahead on the tape.
2. To replay the selection currently being played, press the MS switch ⑲ and if th direction indicator shows ▸ , press the ◂◂ switch into the locked position tape will automatically rewind to the beginning of the song; likewise, if the tap direction indicator shows ◂ , press the ▸▸ switch to replay the current sel

OPERATION

PE PLAYER OPERATION [7280MS model only]

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other side.
change from side A to play side B or vice versa before the end of the tape is
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stop tape play, press the EJECT switch ③.
turn the power OFF, fully rotate the VOLume control counterclockwise.

PE PLAYER OPERATION [7280LS model only]

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OPERATION

Winding the Tape Rapidly in Forward or Reverse Direction [7280MS/LS models only]

1. Press the PROGRAM Switch (◀◀ or ▶▶ switch) ⑬ until it locks and the tape will run rapidly in the designated direction.
2. Lightly press the other switch to stop the Fast Winding mode. The tape will start playing again.
3. When the Fast Winding operation reaches the end of the tape, the mode will automatically switch to playback.

Fast Forward and Rewind [7280ES model only]

1. Note which way the tape direction indicator is pointing.
2. To rapidly advance the tape, press the ◀◀ or ▶▶ button (the one pointing in the same direction as the tape direction indicator).
3. To rapidly rewind the tape, press the ◀◀ or ▶▶ button (the one pointing in the opposite direction of the tape direction indicator).
4. Press the TAPE PAUSE button ㉛ to defeat fast forward or rewind and resume playback.

Tape Pause [7280MS model only]

Push the TAPE PAUSE switch ㉜. The tape disengages from the tape head, capstan, and pinch roller while the cassette remains in the cassette compartment. The mode switches from tape to radio, and the radio frequency will be displayed. To switch from radio to tape mode and resume tape play, press the TAPE PAUSE switch again.

Tape Pause [7280LS model only]

Push the TAPE PAUSE switch ㉛. The tape disengages from the tape head, capstan, and pinch roller while the cassette remains in the cassette compartment. The mode switches from tape to radio, and the radio frequency will be displayed. To switch from radio to tape mode and resume tape play, press the TAPE PAUSE switch again.

Tape Pause [7280ES model only]

Push the TAPE PAUSE button ㉛. The tape head and pinch roller disengage from the tape while the cassette remains inside the tape deck. The unit will automatically switch to the radio mode. To resume play, press the TAPE PAUSE button ㉛ again.

Music Sensor [7280MS/LS models only]

1. With Music Sensor, you can play the next selection ahead on the tape or replay the current selection. To play the next selection ahead, press the MS switch ⑲ then check to see which way the tape direction indicator is pointing. If it is ▶ , press the ▶▶ switch into the locked position. The Music Sensor will automatically locate the next selection ahead and begin playback. If the tape direction indicator shows ◀ , press the ◀◀ switch and the Music Sensor will automatically locate the next selection ahead on the tape.
2. To replay the selection currently being played, press the MS switch ⑲ and if the tape direction indicator shows ▶ , press the ◀◀ switch into the locked position and the tape will automatically rewind to the beginning of the song; likewise, if the tape direction indicator shows ◀ , press the ▶▶ switch to replay the current selection.

OPERATION

Music Sensor [7280ES model only]

1. With Music Sensor you can skip to the beginning of the next musical track or replay the current selection. To skip ahead to the next selection, press the M.S. button ⑱. Check the tape direction indicator ⑳. Then press either the ◀◀ or ▶▶ buttons ⑫ (the one that is pointing in the same direction as the tape direction indicator ⑳). The Music Sensor will automatically locate the next musical track and begin playback.
2. To replay the current selection, press the M.S. button ⑱. Check the tape direction indicator ⑳. Then press either the ◀◀ or ▶▶ buttons ⑫ (the one that is pointing in the opposite direction of the tape direction indicator ⑳). The Music Sensor will automatically locate the beginning of the current selection and begin playback.

Key-off Pause

If the ignition is turned off while a cassette is playing, the tape disengages from the tape head, capstan, and pinch roller, but the cassette remains in the cassette compartment with the cassette door completely closed. When the ignition switch is turned on again, playback will begin from the point where it was left off.

Radio Monitor/Loudness [7280LS model only]

Pushing the RADIO MONITOR/LOUDNESS switch ㉘, Radio Monitor is activated and R. MONI indicator ㉒ will light, you can receive the last tuned station or operate seek tuning UP ⑮ and DN ⑭. Push this switch for 3 seconds or more to activate LOUDNESS function; LOUD indicator lights up. Low frequency sound will be boosted at low sound contents. Push the switch again for 3 seconds or more to release the function.

Radio Monitor [7280ES model only]

If the Radio MONItor button ㉘ is pressed during Fast Forward or Rewind, the unit will go into the tuner mode. When the Fast Forward or Rewind operation is completed, the unit will return to the tape mode and begin playback.
NOTE: Radio Monitor will not function in the Music Sensor (M.S.) mode.

● RADIO OPERATION

Manual and Automatic Seek Tuning [7280MS model only]

The radio does not operate in the tape play mode. To listen to the radio, eject the cassette by pressing the EJECT switch ③ or press the Tape Pause switch ㉜.
Pressing the EJECT switch ③ during tape play causes the tape in the loading slot to be ejected. Pressing longer than three seconds during tape pause produces the same result.

1. Turn on the power by turning the VOLume control/Power switch ㉜ clockwise. Continue to rotate it until the desired volume level is reached.
2. Push the BAND select switch ⑰ for reception of MW, LW or FM (FM 1 or FM2). The radio Band Indicator ⑥ will be on, and the ST [stereo] indicator ⑩ will also be on during FM stereo reception.
3. Adjust the BASS ①, TREBle ②, BALance ㉜, and FADer ㉝ controls to their center positions.
4. To automatically tune, press the TUNE switch ⑯ and then either UP ⑮ or DN ⑭ tuning switch. The SEEK indicator ㉗ appears on the display and the frequency changes to indicate that the radio is in the auto SEEK tuning mode and ready to stop at every strong station. Repeat the procedure until your desired station is obtained. When the radio reaches the upper or lower end of the band, it automatically starts scanning in the opposite direction. To return to manual tuning, press the TUNE switch again, the SEEK indicator disappears.
5. To manually tune, press the Tuning Switch (UP) ⑮ for higher frequency broadcasts, and press the Tuning switch (DN) ⑭ for lower frequency broadcasts.
6. Adjust the VOLume ㉜, BASS ①, TREBle ②, BALance ㉜, and FADer ㉝, to suit your listening preference.
7. To switch from FM to MW/LW or vice versa, press the BAND select switch ⑰.

Manual and Automatic Seek Tuning [7280LS model only]

The radio does not operate in the tape play mode. To listen to the radio, eject the cassette by pressing the EJECT switch ③ or press the Tape Pause switch ㉛.
Pressing the EJECT switch ③ during tape play causes the tape in the loading slot to be ejected. Pressing longer than three seconds during tape pause produces the same result.

1. Turn on the power by turning the VOLume control/Power switch ㉛ clockwise. Continue to rotate it until the desired volume level is reached.
2. Push the BAND select switch ⑰ for reception of MW, LW or FM (FM 1 or FM2). The radio Band Indicator ⑥ will be on, and the ST [stereo] indicator ⑩ will also be on during FM stereo reception.
3. Adjust the BASS ①, TREBle ②, BALance ㉛, and FADer ㉜ controls to their center positions.
4. To automatically tune, press the TUNE switch ⑯ and then either UP ⑮ or DN ⑭ tuning switch. The SEEK indicator ㉖ appears on the display and the frequency changes to indicate that the radio is in the auto SEEK tuning mode and ready to stop at every strong station. Repeat the procedure until your desired station is obtained. When the radio reaches the upper or lower end of the band, it automatically starts scanning in the opposite direction. To return to manual tuning, press the TUNE switch again, the SEEK indicator disappears.
5. To manually tune, press the Tuning Switch (UP) ⑮ for higher frequency broadcasts, and press the Tuning switch (DN) ⑭ for lower frequency broadcasts.
6. Adjust the VOLume ㉛, BASS ①, TREBle ②, BALance ㉛, and FADer ㉜, to suit your listening preference.
7. To switch from FM to MW/LW or vice versa, press the BAND select switch ⑰.

Manual and Automatic Seek Tuning [7280ES model only]

The radio does not operate in the tape play mode. To listen to the radio, eject the cassette by pressing the EJECT button ③ or press the Tape Pause button ㉛.
Pressing the EJECT button ③ during tape play causes the tape in the loading slot to be ejected.

1. Turn on the power by turning the VOLume control/Power switch ㉛ clockwise. Continue to rotate it until the desired volume level is reached. If the unit is in the tape mode, eject the cassette by pressing the EJECT button ③ or press the Tape Pause button ㉛ to access the radio.
2. Push the Radio BAND select button ⑯ for reception of AM or FM (FM 1 or FM2). The radio BAND Indicator ⑥ will be on, and the ST [stereo] indicator ⑨ will also be on during FM stereo reception.
3. Adjust the BASS ①, TREBle ②, BALance ㉛, and FADer ㉜ controls to suit your listening preference.
4. For automatic SEEK tuning, press the TUNE button ⑮ until SEEK appears in the display. Then press either the UP ⑭ or DN ⑬ buttons. The frequency changes to the next higher or lower station. Repeat the procedure until your desired station is obtained. When the radio reaches the upper or lower end of the band, it automatically "wraps around" and begins scanning from the other end of the band.
   To return to manual tuning, press the TUNE button ⑮ again and the SEEK indicator disappears.
5. To manually tune, press the Tuning button (UP) ⑭ for higher frequency broadcasts, and press the Tuning button (DN) ⑬ for lower frequency broadcasts.
6. To switch from FM to AM or vice versa, press the BAND select button ⑯.

Manual Memory Preset [7280MS/LS models only]

Follow the instructions below to memorize stations for preset tuning.

1. Select the tuning band (FM1, FM2, MW or LW) ⑥ with the BAND select switch ⑰.
2. Tune in your desired station by manual tuning or Auto SEEK tuning.
3. Press any Preset switch ⑱ for more than two seconds. The Address indicator ⑫ in the display will begin to blink. Press that switch a second time while the indicator is blinking for five seconds.
4. The preset number will be memorized and will then show in the display ⑫.
   Note: If a preset memory has already been set in the same address, it will be cleared and the new station will be memorized.

Manual Memory Preset [7280ES model only]

Follow the instructions below to manually enter stations into preset memory.

1. Select the tuning band (FM1, FM2 or AM) ⑥ with the BAND Select button ⑯.
2. Tune in your desired station using manual or Auto SEEK tuning.
3. Press and hold any Preset button ⑰ for more than two seconds. The Preset Address indicator ⑪ in the display will begin to blink. Press that preset button a second time while the indicator ⑪ is blinking (within five seconds).
4. The selected station will be placed into preset memory and will show in the display ⑪.
   Note: If a preset memory has already been set in the same address, it will be cleared and the new station will be memorized.

Auto Memory Preset [7280MS model only]

1. Press the TUNE switch ⑯ and light up the Auto MEMO indicator ㉖.
2. Select the desired tuning band (FM1, FM2, MW or LW) ⑥ with the BAND switch ⑰.
3. Press the seek UP ⑮ or DN ⑭ switch.
   It will automatically seek 6 strong stations in each band and memory the stations in order of the signal strength from the strongest station for the Address No. 1 to the 6th strong station for the Address No. 6. When the station is memorized, the address indicator (No. 1 — 6) ⑫ will appear. First, it seeks the stations in the local tuning. If the stations memorized are less than 6, it seeks the stations in the distance (DX) tuning.
4. After finishing Auto Memory Preset, it tunes in the station memorized onto the Address No. 1. If no station is memorized, it returns to the original station you were listening to before the auto memory preset procedures.

Auto Memory Preset [7280LS model only]

1. Press the TUNE switch ⑯ and light up the Auto MEMO indicator ㉕.
2. Select the desired tuning band (FM1, FM2, MW or LW) ⑥ with the BAND switch ⑰.
3. Press the seek UP ⑮ or DN ⑭ switch.
   It will automatically seek 6 strong stations in each band and memory the stations in order of the signal strength from the strongest station for the Address No. 1 to the 6th strong station for the Address No. 6. When the station is memorized, the address indicator (No. 1 — 6) ⑫ will appear. First, it seeks the stations in the local tuning. If the stations memorized are less than 6, it seeks the stations in the distance (DX) tuning.
4. After finishing Auto Memory Preset, it tunes in the station memorized onto the Address No. 1. If no station is memorized, it returns to the original station you were listening to before the auto memory preset procedures.

Auto MEMOry Preset [7280ES model only]

1. Press the TUNE button ⑮ until the Auto MEMOry indicator ㉕ appears in the display.
2. Select the desired tuning band (FM1, FM2 or AM) ⑥ with the BAND Sel button ⑯.
3. Press the UP ⑭ or DN ⑬ tuning button.
   The unit will automatically scan the entire band and pick out the six strongest stations. It memorizes the stations in order of signal strength. First the unit seeks the stations in the local tuning mode. If less than six stations are memorized, it seeks again in the distance (DX) tuning mode. When a station is placed into memory, the address indicator for that pres (No. 1 — 6) will appear in the display. The stations are placed into the preset memory in order of signal strength with the strongest station in preset No. 1 and the sixth strongest station in preset No. 6.
4. After finishing Auto Memory Preset, the unit tunes in the station placed into Preset Address No. 1. If no station is memorized, it returns to the original station you were listening to before the auto memory preset procedure began.

Preset Tuning [7280MS/LS models only]

After the preset stations have been memorized, you can tune in your desired station w just a touch of a switch.

1. Select the tuning band (FM1, FM2, MW or LW) ⑥ with the BAND select switch ⑰.
2. Press any one of the preset switches ⑱ and the number (1 — 6) will illuminate in th display ⑫.

Preset Tuning [7280ES model only]

After the preset stations have been memorized, you can easily tune in your desired stations.

1. Select the tuning band (FM1, FM2 or AM) ⑥ with the BAND Select butto ⑯.
2. Press any one of the Station Preset buttons ⑰ and the number 1 to 6 wi illuminate in the display ⑪. The frequency of the station in the selected preset location will appear in the display.

D.A.P. (Direct Access Preset) [7280MS/LS models only]

This feature allows the storage of FM, MW and LW presets on the same band.
To memorize stations into D.A.P., follow the same procedures as in Manual Memory Preset, above.

D.A.P. (Direct Access Preset) [7280ES model only]

This feature allows the storage of both AM and FM presets on the same band. To utilize this function, press the D.A.P. button and the D.A.P. indicat will appear in the display. Then follow the same procedures as described in the Manual Memory Preset section on page 11.

OPERATION

Memory Preset [7280MS/LS models only]

ne instructions below to memorize stations for preset tuning.
ct the tuning band (FM1, FM2, MW or LW) ⑥ with the BAND select switch ⑰.
in your desired station by manual tuning or Auto SEEK tuning.
s any Preset switch ⑱ for more than two seconds. The Address indicator ⑫ in
display will begin to blink. Press that switch a second time while the indicator is
ing for five seconds.
preset number will be memorized and will then show in the display ⑫.
e: If a preset memory has already been set in the same address, it will be
cleared and the new station will be memorized.

Memory Preset [7280ES model only]

he instructions below to manually enter stations into preset memory.
ct the tuning band (FM1, FM2 or AM) ⑥ with the BAND Select button

in your desired station using manual or Auto SEEK tuning.
s and hold any Preset button ⑰ for more than two seconds. The
et Address indicator ⑪ in the display will begin to blink. Press that
et button a second time while the indicator ⑪ is blinking (within five
nds).
selected station will be placed into preset memory and will show in
display ⑪.
e: If a preset memory has already been set in the same address,
it will be cleared and the new station will be memorized.

mory Preset [7280MS model only]

the TUNE switch ⑯ and light up the Auto MEMO indicator ㉖.
t the desired tuning band (FM1, FM2, MW or LW) ⑥ with the BAND switch ⑰.
the seek UP ⑮ or DN ⑭ switch.
automatically seek 6 strong stations in each band and memory the stations in
of the signal strength from the strongest station for the Address No. 1 to the 6th
station for the Address No. 6. When the station is memorized, the address
tor (No. 1 — 6) ⑫ will appear. First, it seeks the stations in the local tuning. If
tations memorized are less than 6, it seeks the stations in the distance (DX)
finishing Auto Memory Preset, it tunes in the station memorized onto the
ss No. 1. If no station is memorized, it returns to the original station you were
ing to before the auto memory preset procedures.

mory Preset [7280LS model only]

the TUNE switch ⑯ and light up the Auto MEMO indicator ㉕.
t the desired tuning band (FM1, FM2, MW or LW) ⑥ with the BAND switch ⑰.
the seek UP ⑮ or DN ⑭ switch.
automatically seek 6 strong stations in each band and memory the stations in
of the signal strength from the strongest station for the Address No. 1 to the 6th
station for the Address No. 6. When the station is memorized, the address
tor (No. 1 — 6) ⑫ will appear. First, it seeks the stations in the local tuning. If
ations memorized are less than 6, it seeks the stations in the distance (DX)
finishing Auto Memory Preset, it tunes in the station memorized onto the
ss No. 1. If no station is memorized, it returns to the original station you were
ng to before the auto memory preset procedures.

OPERATION

Auto MEMOry Preset [7280ES model only]

1. Press the TUNE button ⑮ until the Auto MEMOry indicator ㉕ appears in the display.
2. Select the desired tuning band (FM1, FM2 or AM) ⑥ with the BAND Select button ⑯.
3. Press the UP ⑭ or DN ⑬ tuning button.
   The unit will automatically scan the entire band and pick out the six strongest stations. It memorizes the stations in order of signal strength. First the unit seeks the stations in the local tuning mode. If less than six stations are memorized, it seeks again in the distance (DX) tuning mode. When a station is placed into memory, the address indicator for that preset (No. 1 — 6) will appear in the display. The stations are placed into the preset memory in order of signal strength with the strongest station in preset No. 1 and the sixth strongest station in preset No. 6.
4. After finishing Auto Memory Preset, the unit tunes in the station placed into Preset Address No. 1. If no station is memorized, it returns to the original station you were listening to before the auto memory preset procedure began.

Preset Tuning [7280MS/LS models only]

After the preset stations have been memorized, you can tune in your desired station with just a touch of a switch.

1. Select the tuning band (FM1, FM2, MW or LW) ⑥ with the BAND select switch ⑰.
2. Press any one of the preset switches ⑱ and the number (1 — 6) will illuminate in the display ⑫.

Preset Tuning [7280ES model only]

After the preset stations have been memorized, you can easily tune in your desired stations.

1. Select the tuning band (FM1, FM2 or AM) ⑥ with the BAND Select button ⑯.
2. Press any one of the Station Preset buttons ⑰ and the number 1 to 6 will illuminate in the display ⑪. The frequency of the station in the selected preset location will appear in the display.

D.A.P. (Direct Access Preset) [7280MS/LS models only]

This feature allows the storage of FM, MW and LW presets on the same band.
To memorize stations into D.A.P., follow the same procedures as in Manual Memory Preset, above.

D.A.P. (Direct Access Preset) [7280ES model only]

This feature allows the storage of both AM and FM presets on the same band. To utilize this function, press the D.A.P. button and the D.A.P. indicator will appear in the display. Then follow the same procedures as described in the Manual Memory Preset section on page 11.

OPERATION

To Access the D.A.P. Presets [7280MS model only]

1. Press the D.A.P. switch ㉘. The D.A.P. indicator ⑤ will illuminate in the display.
2. Press any one of the preset switches ⑱ and the number (1 — 6) will illuminate in the display.

To Access the D.A.P. Presets [7280LS model only]

1. Press the D.A.P. switch ㉗. The D.A.P. indicator ⑤ will illuminate in the display.
2. Press any one of the preset switches ⑱ and the number (1 — 6) will illuminate in the display.

To access the D.A.P. presets: [7280ES model only]

1. Press the D.A.P. button ㉗. The D.A.P. indicator ⑤ will illuminate in the display.
2. Press any one of the Station Preset buttons ⑰ and the number 1 to 6 will illuminate in the display. The frequency of the station in the selected preset location will appear in the display.

FM Stereo/Monaural Selection (MONO Switch) [7280MS model only]

During stereo reception, should the signal level become weak (the "ST" indicator ⑩ in the display blinks), select monaural reception by pressing the MONO switch ㉚ to decrease noise level.

NOTE: Monaural mode has been set initially. Push the MONO switch ㉚ when a stereo broadcast is being received.

FM Stereo/Monaural Selection (MONO Switch) [7280LS model only]

During stereo reception, should the signal level become weak (the "ST" indicator ⑩ in the display blinks), select monaural reception by pressing the MONO switch ㉙ to decrease noise level.

NOTE: Monaural mode has been set initially. Push the MONO switch ㉙ when a stereo broadcast is being received.

FM Stereo/Monaural Selection (MONO Button) [7280ES model only]

During stereo reception, should the signal level become weak (the "ST" indicator ⑨ in the display blinks), select monaural reception by pressing the MONO button ㉙ to decrease the noise level.

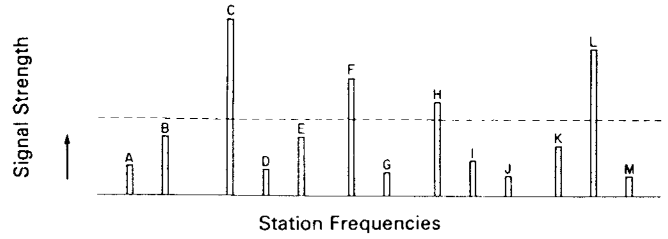
NOTE:

Monaural mode has been set initially. Push the MONO button ㉙ when a stereo broadcast is being received.

Local/Distance Switch Operation [7280MS/LS models only]

You may select local or distance mode during SEEK tuning. When it is in the local mode (Distance (DX) indicator ⑨ is off), it allows you to tune in strong signal stations only (stations C, F, H and L as shown below). When it is in the distance mode (Distance (DX) indicator is on), weak and strong signal stations (stations from A through M) will be tuned in.

Once a station is tuned in by SEEK in local mode, the mode will automatically switch to distance mode for optimum reception.



NOTE: DX (Local/Distance) Switch ㉛ functions only in SEEK tuning. **[7280MS model only]**

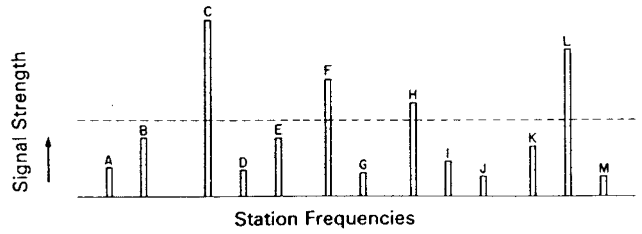
NOTE: DX (Local/Distance) Switch ㉚ functions only in SEEK tuning. **[7280LS model only]**

OPERATION

Local/Distance Switch Operation [7280ES model only]

You may select local or distance mode during SEEK tuning. When the unit is in the local mode (DX indicator ㉑ is off), the tuner only picks up the strong signal stations (C, F, H, and L shown below). When it is in the distance mode (Distance (DX) indicator is on), weak and strong stations (A through M shown below) will be tuned in. below) will be tuned in.

Once a station is tuned in by SEEK in local mode, the mode will automatically switch to distance mode for optimum reception.



NOTE:

The DX (Local/Distance) function is for SEEK tuning only.

Traffic Information Receiving [7280MS model only]

This model is equipped with traffic information receiving apparatus to be used in West Germany where the traffic information is broadcast in FM. The following is how to use this unit to receive traffic information broadcasting.

1. Select FM position.
2. Depress the SDK switch and tune to a station. If the station is a traffic information station, the SK indicator will glow and show the reception of a broadcast from a traffic information station.
   NOTE: SK Indicator
   When SK signal is received irrespective of the SDK position, the SK indicator will illuminate.
3. In the SDK mode, stations other than traffic information stations are muted and cut out. Therefore, it is easy to select a traffic information station.
4. As the signal of the tuned traffic information station becomes weak, the SK indicator will extinguish, then after the lapse of 30 seconds, a rhythmical alarm will sound to urge retuning to another stronger station. If the reception of further traffic information is required, tune in the desired traffic information station. When received, the alarm will stop and the SK indicator illuminates. Since the alarm will continue if no signals from any other traffic stations can be received, release SDK switch to stop the alarm and receive normal broadcasting.
5. When the unit is playing a cassette tape with the SDK switch pushed in and tuned to a traffic information station, the tape play is interrupted and changed to FM radio if the pre-tuned station begins a traffic information message. When the message is over, the unit reverts to tape play automatically.
6. Even if the VOLUME control is set to the minimum position, the volume of the traffic information will be automatically adjusted to proper level. After the message, the sound volume returns to the previously adjusted level.
7. If traffic information reception is no longer necessary, release SDK switch for normal radio reception.

Disassembly Instructions

1. Removal of Nosepiece

(1) After removal of bracket handle, top cover and bottom cover, remove two control knobs (Volume, Balance) and two slide knobs as shown in Figure 1.

(2) Remove two screws marked "○" and two hooks (A) as shown in Figures 1 and 2.

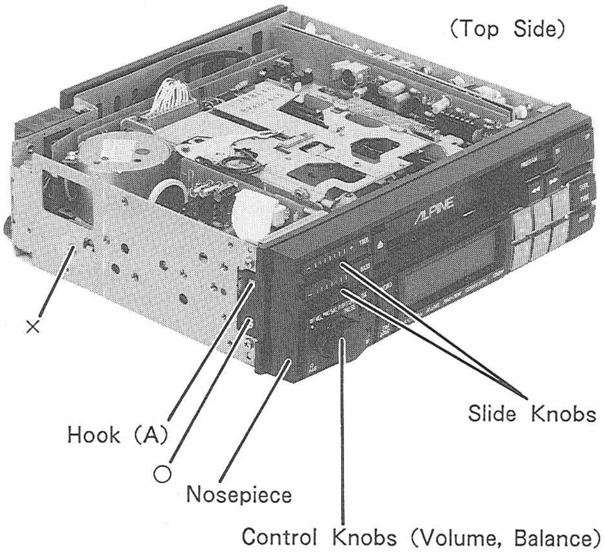

(Top Side)
×
Hook (A)
○
Nosepiece
Slide Knobs
Control Knobs (Volume, Balance)

Figure 1

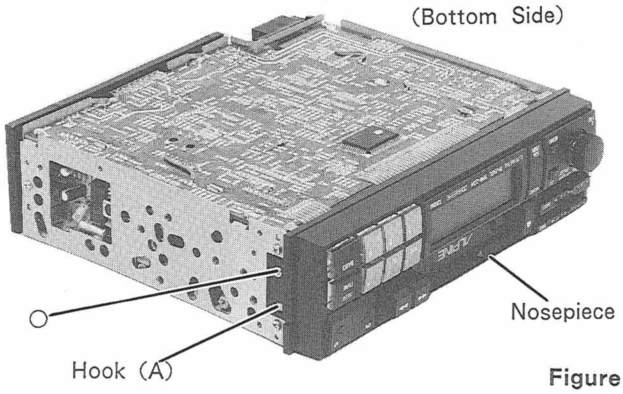

(Bottom Side)
○
Hook (A)
Nosepiece

Figure 2

2. Removal of Cassette Deck

(1) After removal of nosepiece, remove four screws marked "×" as shown in Figures 1 and 3.

(2) Disconnect one connector from the cassette deck.

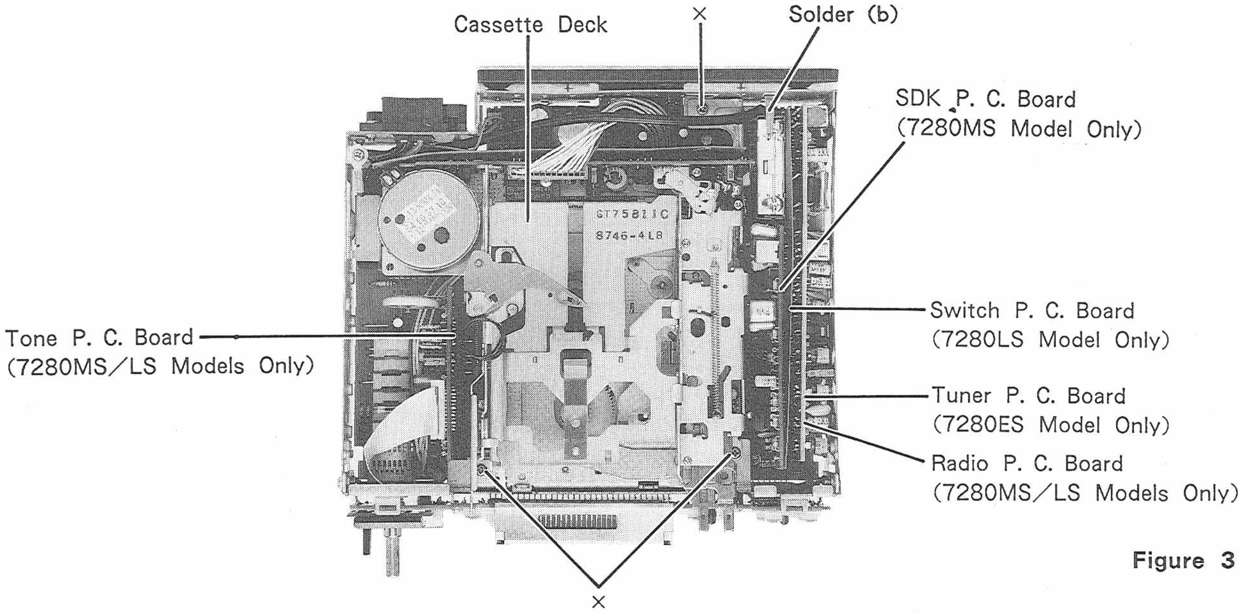

Cassette Deck
×
Solder (b)
SDK P. C. Board
(7280MS Model Only)
Tone P. C. Board
(7280MS/LS Models Only)
Switch P. C. Board
(7280LS Model Only)
Tuner P. C. Board
(7280ES Model Only)
Radio P. C. Board
(7280MS/LS Models Only)
×

Figure 3

3. Removal of Front P. C. Board

(1) After removal of cassette deck, remove two screws marked "◇" as shown in Figure 4.

(2) Remove the solder (c) as shown in Figure 6.

(3) Disconnect one wire from the Front P. C. Board.

Note :Do not cut parallel wires from the Main P. C. Board by removing the solder (c).

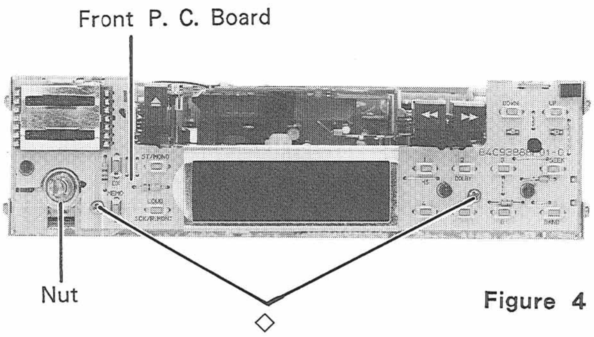

Front P. C. Board
Nut
◇

Figure 4

4. Removal of Tuner P. C. Board (7280ES Model Only)
Radio P. C. Board (7280MS/LS Models Only)

(1) Remove the solder (b) as shown in Figures 3 and 6.

5. Removal of Tone P. C. Board (7280MS/LS Models Only)

(1) After removal of cassette deck, remove the solder (d) as shown in Figure 6.

(2) Disconnect two connectors from the Tone P. C. Board.

6. Removal of SDK P. C. Board (7280MS Model Only)

(1) Remove the solder (e) and (f) as shown in Figure 6.

7. Removal of Switch P. C. Board (7280LS Model Only)

(1) Remove the solder (f) as shown in Figure 6.

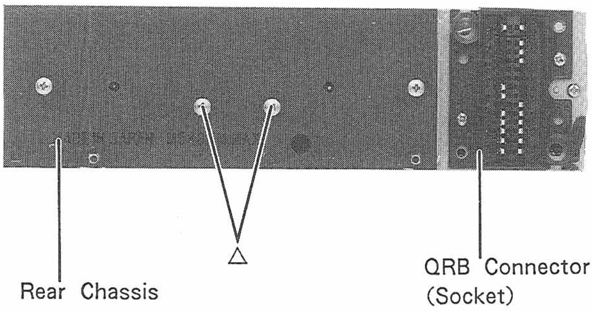

△
Rear Chassis
QRB Connector
(Socket)

Figure 5

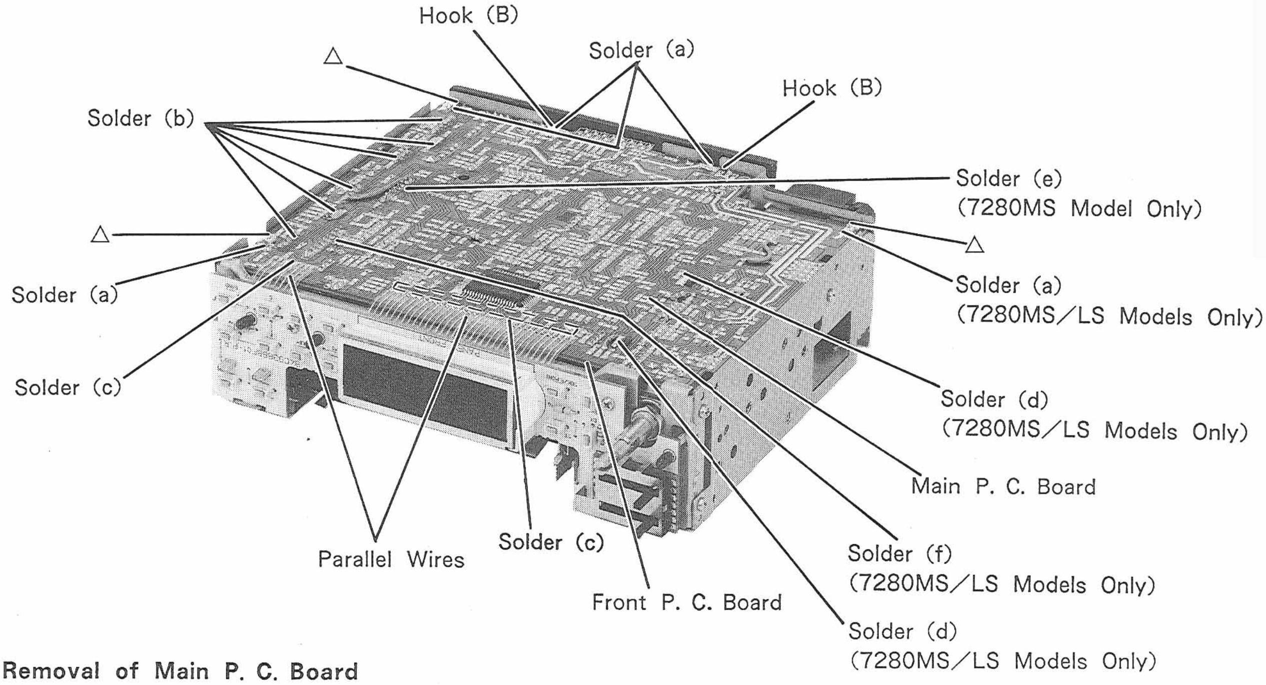

Hook (B)
△
Solder (a)
Hook (B)
Solder (b)
Solder (e)
(7280MS Model Only)
△
△
Solder (a)
(7280MS/LS Models Only)
Solder (a)
Solder (c)
Solder (d)
(7280MS/LS Models Only)
Main P. C. Board
Parallel Wires
Solder (c)
Front P. C. Board
Solder (f)
(7280MS/LS Models Only)
Solder (d)
(7280MS/LS Models Only)

Figure 6

8. Removal of Main P. C. Board

(1)-1 After removals of Front P. C. Board and Tuner P. C. Board, remove the solder (a) as shown in Figure 6. (7280ES Model Only)

(1)-2 After removals of Front P. C. Board, Radio P. C. Board, Tone P. C. Board and SDK P. C. Board remove the solder (a) as shown in Figure 6. (7280MS Model Only)

(1)-3 After removals of Front P. C. Board, Radio P. C. Board. Tone P. C. Board and Switch P. C. Board, remove the solder (a) as shown in Figure 6. (7280LS Model Only)

(2) Remove a nut and two hooks (B) as shown in Figures 4 and 6.

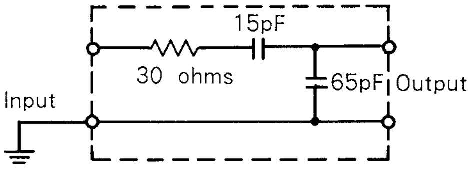
(3) Remove five screws marked "△" as shown in Figures 5 and 6.

(4) Disconnect all wires from the Main P. C. Board.

Adjustment Procedures

1. AM SECTION

(1) Dummy Antenna Circuit


15pF
30 ohms
65pF
Input
Output

For 50 ohms AM Signal Generator

Figure 7

(2) Connections

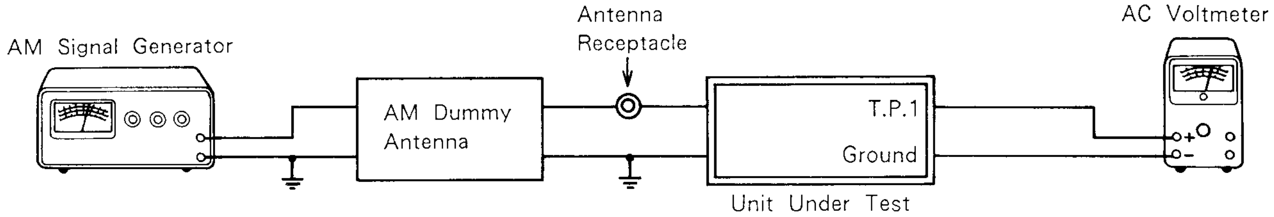

AM Signal Generator
AM Dummy Antenna
Antenna Receptacle
T.P.1
Ground
Unit Under Test
AC Voltmeter

Figure 8

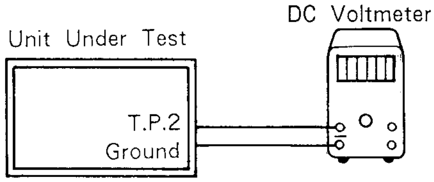

Unit Under Test
T.P.2
Ground
DC Voltmeter

Figure 9

(3) Location of Adjustment Parts
See Adjustment Locations.

(4) Control Setting
Power Switch ································ON
FM/AM Switch ······························ AM
Others ··OFF
Balance Control ················ Mechanical Center
Treble/Bass Control ·········· Mechanical Center
Fader Control ····················· Front Position

(5) Adjustment Procedures (7280ES Model Only)

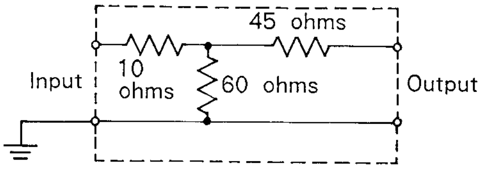
Step	Description	Connection	Signal Generator	Dial Control	Adjustment
1	Band Covering	Figure 9	–	1,602kHz	VC3 for 7.5±0.1V Output.
2	Band Covering	Figure 9	–	531kHz	T3 for 1.7±0.05V Output.
3	Band Covering	Figure 9	–	–	Repeat Steps 1 and 2.
4	IF Adjustment	Figure 8	1,404kHz, 20dB μ	1,404kHz	T4, 5 for Maximum Output.
5	Tracking	Figure 8	1,404kHz, 20dB μ	1,404kHz	VC1, 2 for Maximum Output.
6	Tracking	Figure 8	603kHz, 20dB μ	603kHz	T6, 7 for Maximum Output.
7	Tracking	Figure 8	–	–	Repeat Steps 5 and 6.

(5) Adjustment Procedures (7280MS/LS Models Only)

Step	Description	Connection	Signal Generator	Dial Control	Adjustment
1	Band Covering	Figure 9	–	153kHz	L8 for 2.3±0.1V Output.
2	IF Adjustment	Figure 8	999kHz, 20dB μ	999kHz	T3 for Maximum Output.
3	Tracking	Figure 8	999kHz, 20dB μ	999kHz	T1, 2 for Maximum Output.

2. SDK SECTION (7280MS Model Only)

(1) Dummy Antenna


45 ohms
Input
10 ohms
60 ohms
Output

For 50 ohms FM Signal Generator

Figure 10

(2) Connections

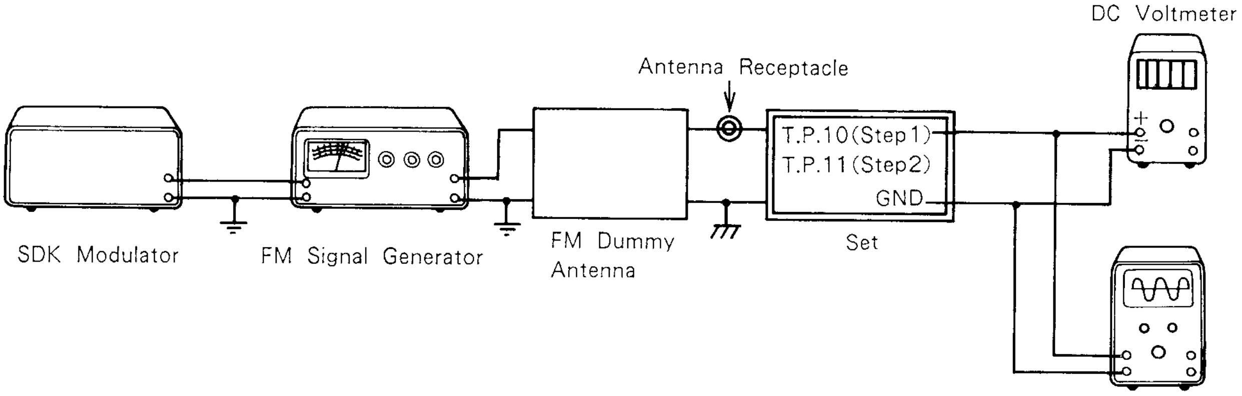

DC Voltmeter
Antenna Receptacle
T.P.10(Step1)
T.P.11(Step2)
GND
SDK Modulator
FM Signal Generator
FM Dummy Antenna
Set
Osilloscope

Figure 11

(3) Control Settings

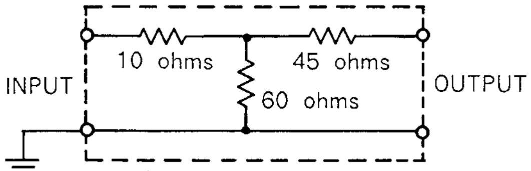
Power Switch ································ ON
Band Select Switch ························ SDK
Balance Control ················ Mechanical Center
Treble/Bass Controls ·········· Mechanical Center
Fader Control ······················ Front Position
Others ·· OFF

(4) Adjustment Procedures

Step	Description	Connection	Signal Generator	Dial Control	Adjustment
1	SK Adjustment	Figure 11	98.1MHz, 66dB μ (SK, BK : ON DK : OFF)	98.1MHz	L601 for Maximum Output of T.P.10.
2	DK Adjustment	Figure 11	98.1MHz, 66dB μ (SK, BK, DK : ON)	98.1MHz	VR601 for Maximum Output of T.P.11.

3. FM SECTION

(1) Dummy Antenna Circuit


10 ohms
45 ohms
60 ohms
INPUT
OUTPUT

For 50 ohms FM Signal Generator

Figure 12

(2) Connections

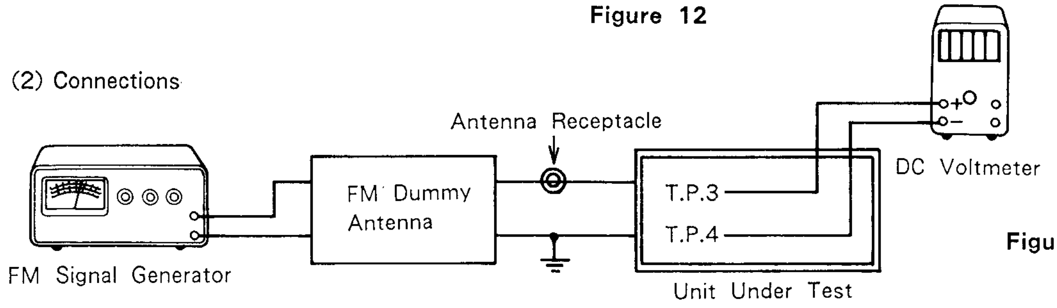

Antenna Receptacle
FM Dummy Antenna
T.P.3
T.P.4
DC Voltmeter
+
−
FM Signal Generator
Unit Under Test

Figure 13

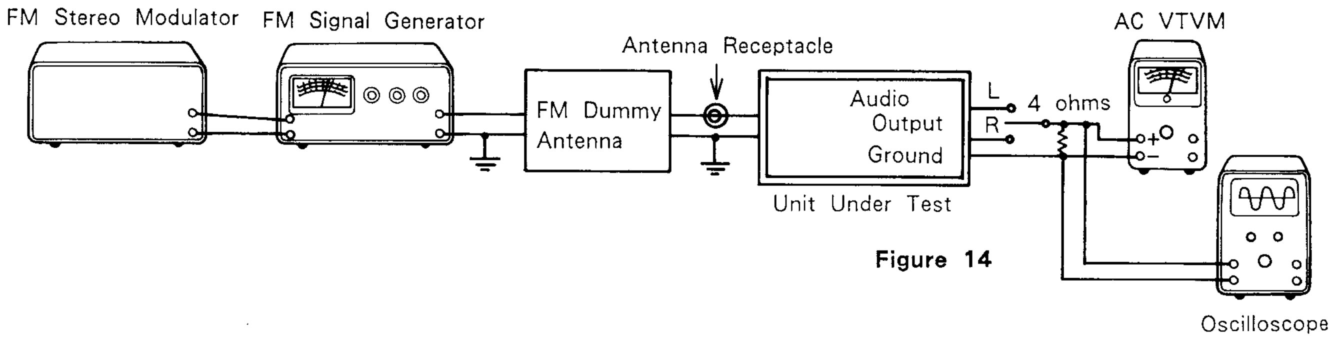

FM Stereo Modulator
FM Signal Generator
Antenna Receptacle
AC VTVM
FM Dummy Antenna
Audio Output Ground
L
R
4 ohms
+
−
Unit Under Test
Oscilloscope

Figure 14

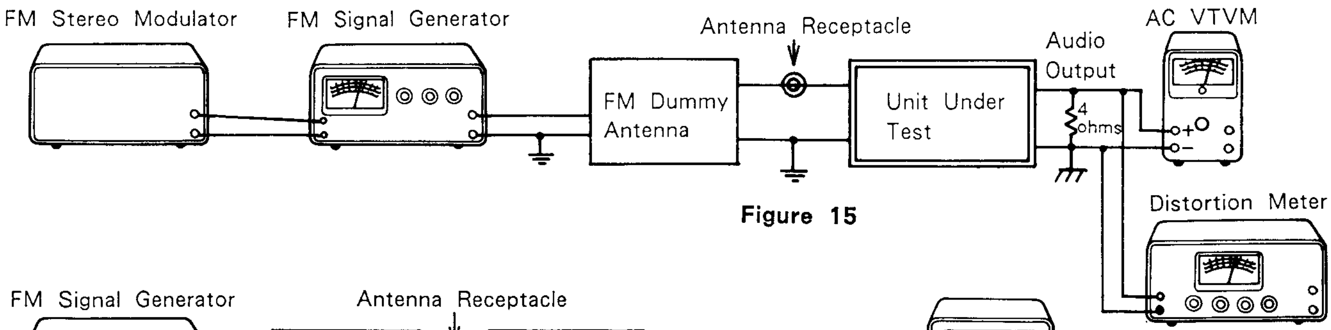

FM Stereo Modulator
FM Signal Generator
Antenna Receptacle
AC VTVM
Audio Output
FM Dummy Antenna
Unit Under Test
4 ohms
+
−
Distortion Meter

Figure 15

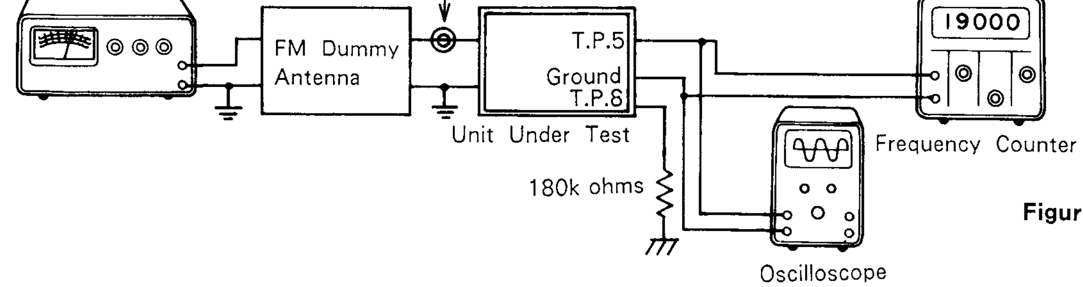

FM Signal Generator
Antenna Receptacle
FM Dummy Antenna
T.P.5
Ground
T.P.8
19000
Unit Under Test
Frequency Counter
180k ohms
Oscilloscope

Figure 16

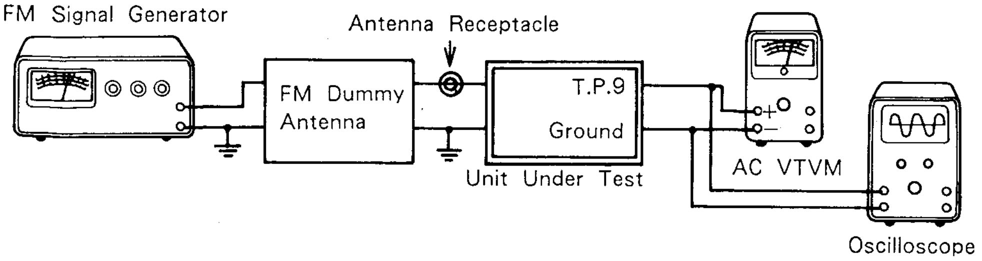

FM Signal Generator
Antenna Receptacle
FM Dummy Antenna
T.P.9
Ground
Unit Under Test
+
−
AC VTVM
Oscilloscope

Figure 17

(3) Location of Adjustment Parts
See Adjustment Locations.

(4) Control Settings

Power Switch	ON	Balance Control	Mechanical Center
FM/AM Switch	FM	Treble/Bass Control	Mechanical Center
Others	OFF	Fader Control	Front Position

(5) Adjustment Procedures

Step	Description	Connection	Signal Generator	Dial Control	Adjustment
1	IF Adjustment	Figure 13	98.1MHz, 66dB μ (No Modulation Mono Signal)	98.1MHz	Confirm to receiving signal. T2 (7280ES), T4 (7280MS/LS) for 0V±0.03V between T.P.3 and 4.
2	VCO Adjustment	Figure 16	98.1MHz, 66dB μ (Mono Signal No Modulation)	98.1MHz	VR3 for 19±0.2kHz Curve at T.P.5.
3	Separation Adjustment	Figure 14	98.1MHz, 66dB μ, 1,000Hz R (L) Signal Modulation	98.1MHz	VR4 (7280ES), VR5 (7280MS/LS) for minimum at L (R) channel Output.
4	FM Stereo Blend Adjustment	Figure 15	98.1MHz, 66dB μ L Signal	98.1MHz	VR203-1, 2 (7280ES) VR302-1, 2 (7280MS/LS) [VOLUME] for 2V at Lch Output.
			98.1MHz, 46dB μ L Signal	98.1MHz	VR1 for 8±2dB (7280ES), VR4 for 8±2dB (7280MS/LS) separation.
5	SEEK STOP Adjustment	Figure 17	98.1MHz, 20dB μ Mono Signal No Modulation	98.1MHz	Adjust VR2 for the waveform changing from Low to High.
6	Noise Level Adjustment	Figure 14	98.1MHz, 66dB μ (Mod. 400Hz, Dev. 22.5kHz)	98.1MHz	VR302-1, 2 (VOLUME) for 2V at Lch Output.
			98.1MHz, −10dB μ (Mod. 400Hz Dev. 22.5kHz)	98.1MHz	VR1 for −25 to −35dB at Lch Output.

※Step 6 •••• 7280MS/LS Models Only

4. TAPE SECTION

(1) Connection

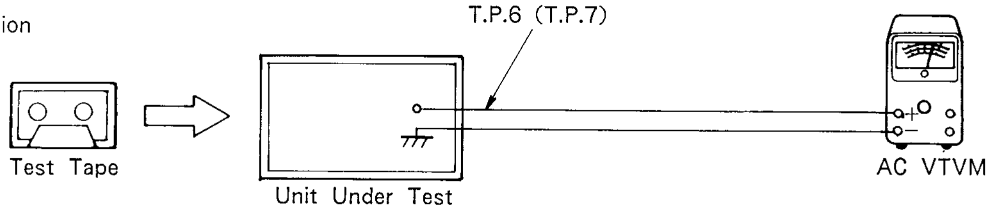


Figure 18

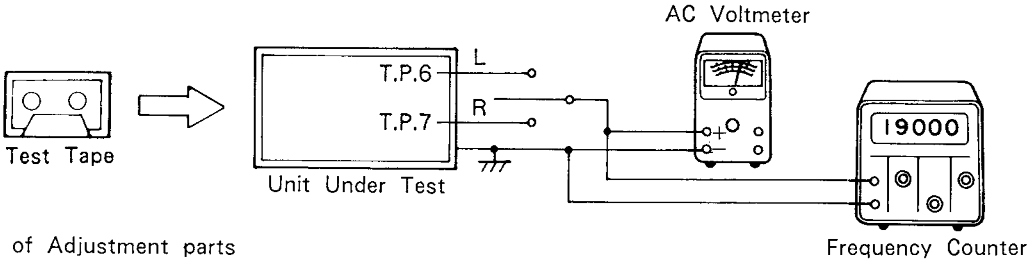


Figure 19

(2) Location of Adjustment parts
See Adjustment Locations

(3) Control Settings

Power Switch ································ON
Fader Control ······················ Front Position
Balance Control ················ Mechanical Center
Treble/Bass Control ·········· Mechanical Center
Others ··OFF

(4) Adjustment Procedures

Step	Description	Test Tape	Connection	Test Point	Adjustment Point	Adjustment
1	Head Azimuth Adjustment	MTT-114NB (14kHz)	Figure 19	T.P.6, T.P.7	Head Azimuth Adjustment Screw (Figure 20)	Adjust for Maximum and same level output at Normal and Reverse Positions.
2	Dolby Level Adjustment	MTT-150 (400Hz)	Figure 18	T.P.6, T.P.7	VR601 (L) (7280ES) VR101 (L) (7280MS/LS) VR602 (R) (7280ES) VR102 (R) (7280MS/LS)	Output for 245mV±1dB.
3	Tape Speed Adjustment	MTT-111 (3kHz)	Figure 19	T.P.6 or T.P.7	Tape Speed Adjustment (Figure 21)	3,030–3,080Hz

Adjustment Locations

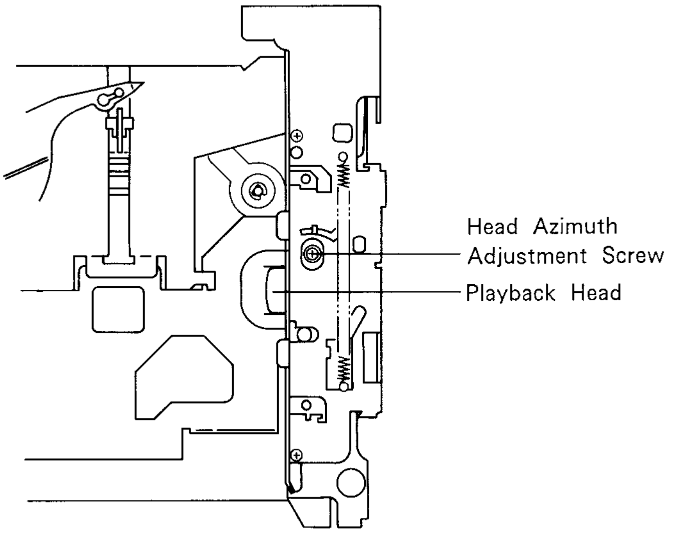

Head Azimuth Adjustment Screw
Playback Head

Figure 20

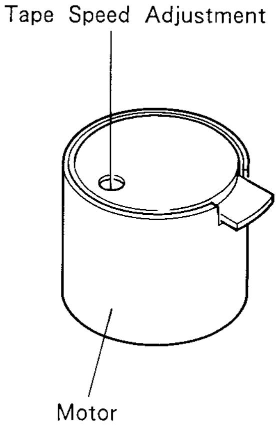
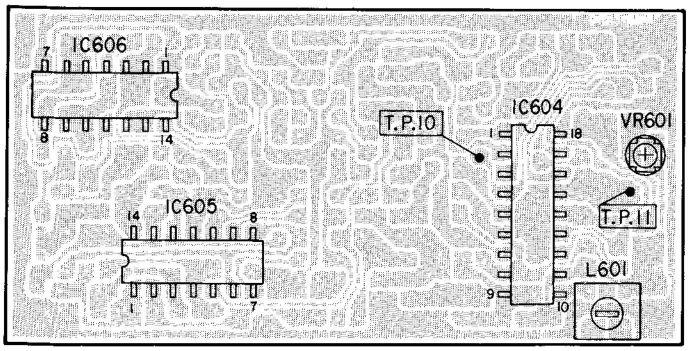
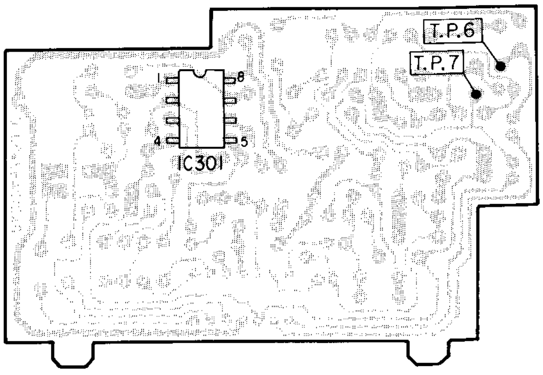

Tape Speed Adjustment
Motor

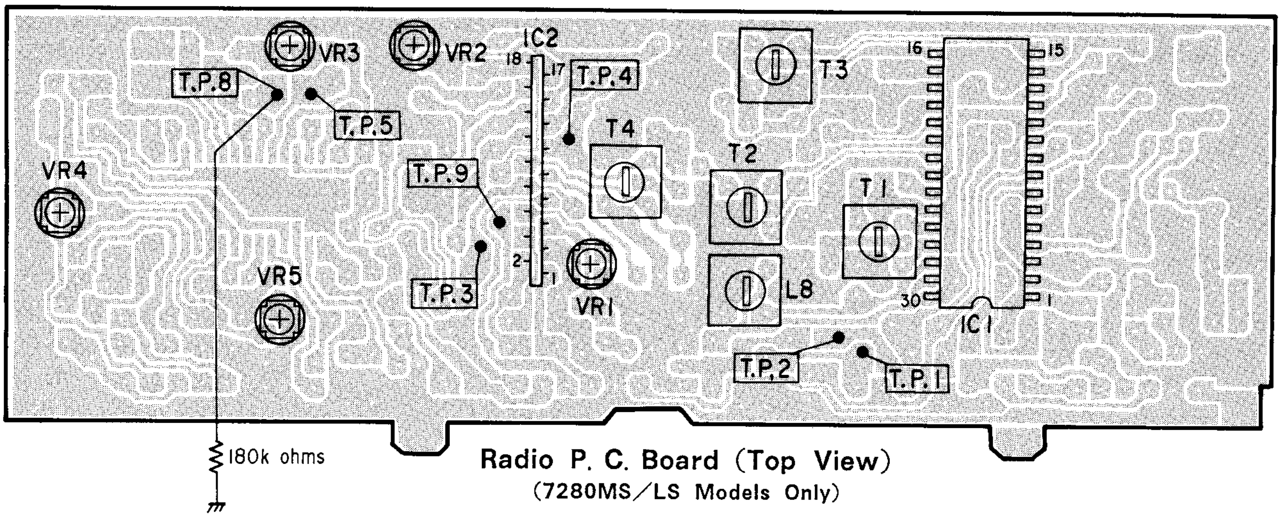
Figure 21


IC606
7
1
8
14
T.P.10
IC604
1
18
9
10
VR601
T.P.11
L601
IC605
14
8
1
7

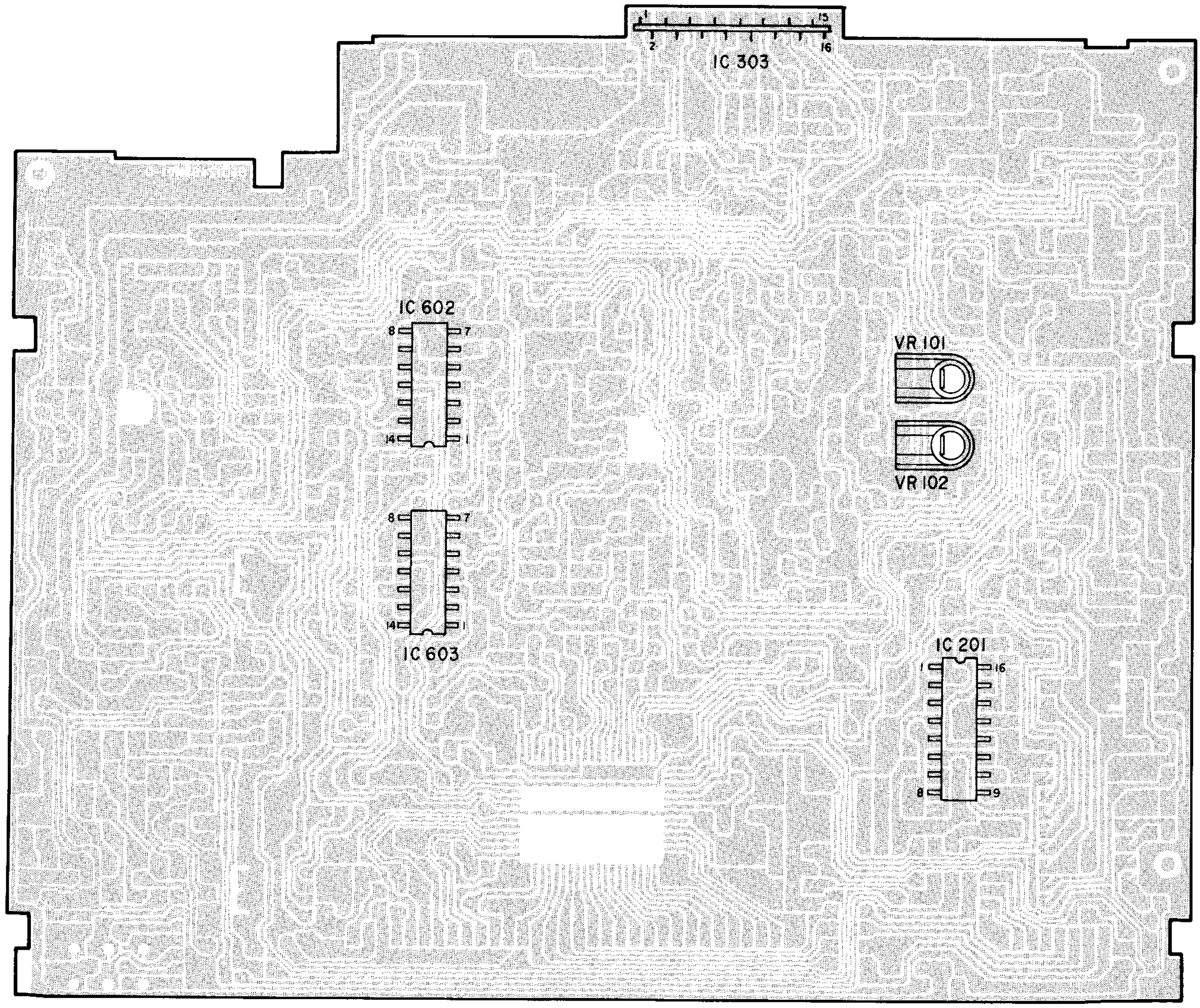
SDK P. C. Board (Top View)
(7280MS Model Only)


T.P.6
T.P.7
1
8
4
5
IC301

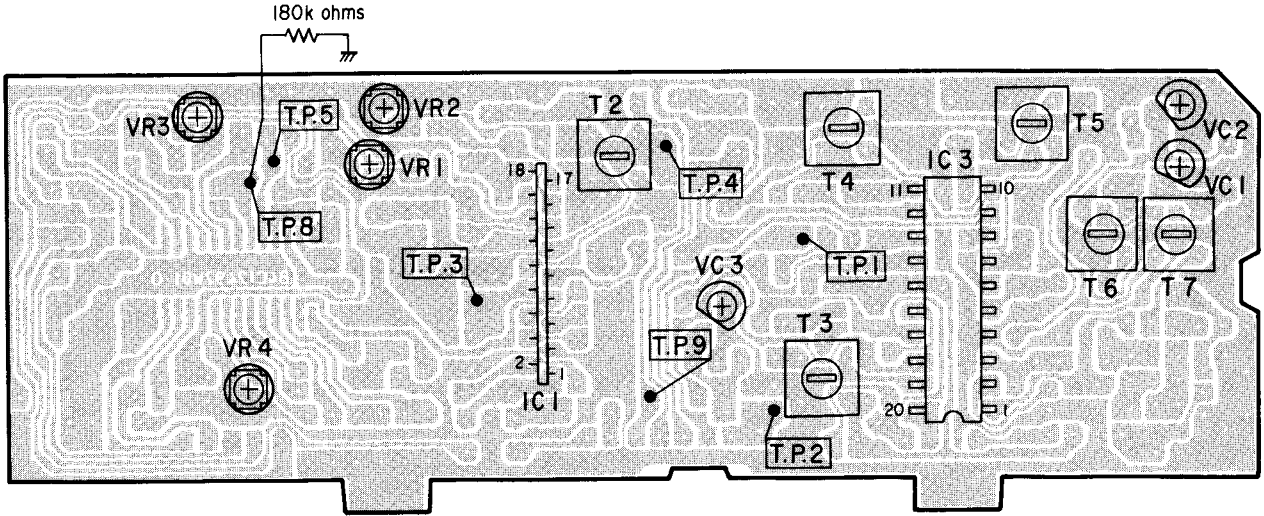
Tone P. C. Board (Top View)
(7280MS/LS Models Only)


VR3
VR2
IC2
18
17
T.P.4
T3
16
15
T.P.8
T.P.5
T4
VR4
T.P.9
T2
T1
2
1
VR1
L8
30
1
IC1
VR5
T.P.3
T.P.2
T.P.1
180k ohms

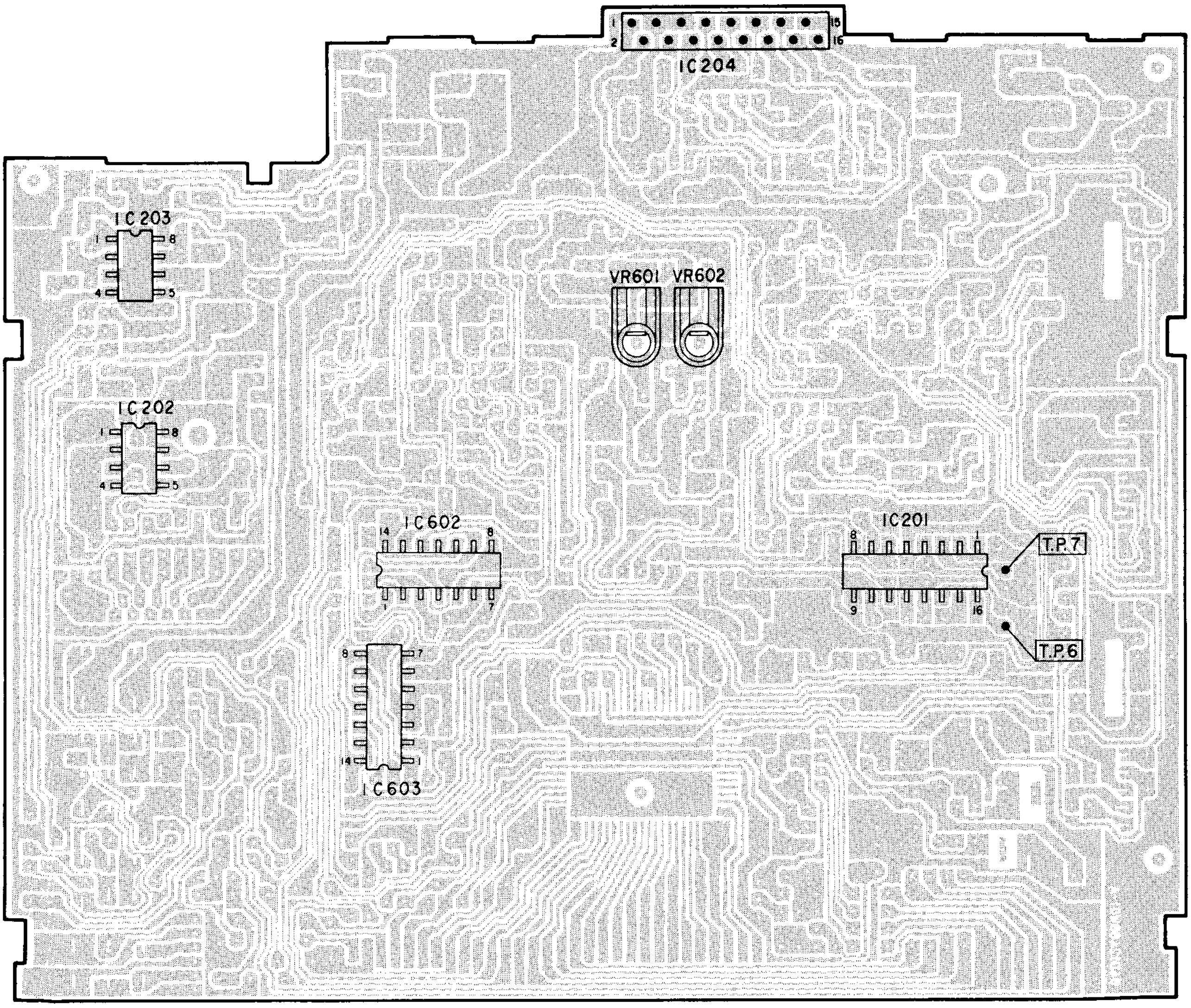
Radio P. C. Board (Top View)
(7280MS/LS Models Only)


1
15
2
16
IC 303
IC 602
8
7
14
1
VR 101
VR 102
8
7
14
1
IC 603
IC 201
1
16
8
9

Main P. C. Board (Top View)
(7280MS/LS Models Only)


180k ohms
VR3
T.P.5
VR2
VR1
T2
T.P.4
T4
IC3
T5
VC2
VC1
T.P.8
18
17
T.P.3
T.P.1
VC3
11
10
T6
T7
T3
T.P.9
VR4
2
1
IC1
20
1
T.P.2

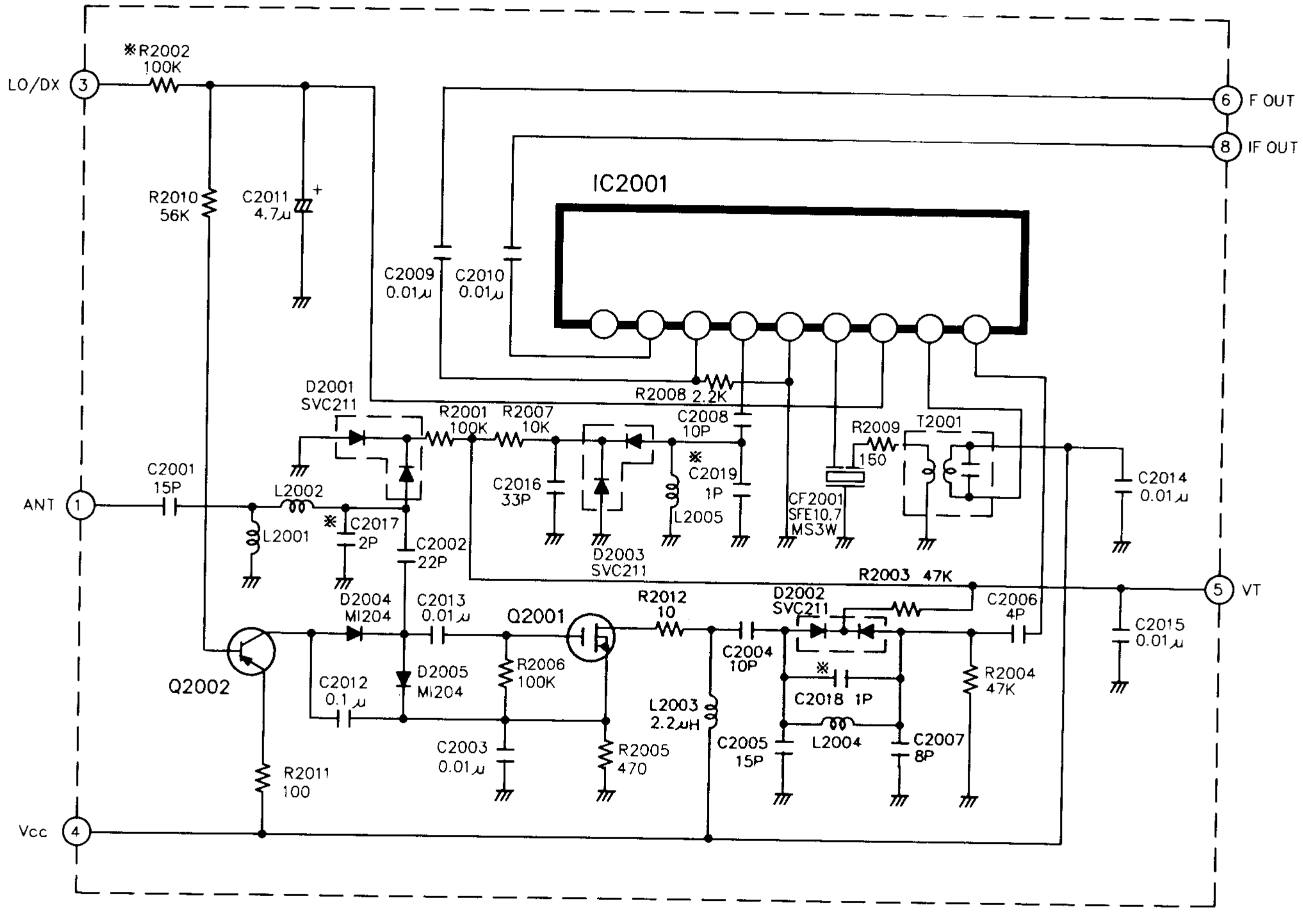
Tuner P. C. Board (Top View)
(7280ES Model Only)


1
2
15
16
IC204
IC203
1
8
4
5
VR601
VR602
IC202
1
8
4
5
IC602
14
8
1
7
IC201
8
1
9
16
T.P.7
T.P.6
8
7
14
1
IC603

Main P. C. Board (Top View)
(7280ES Model Only)

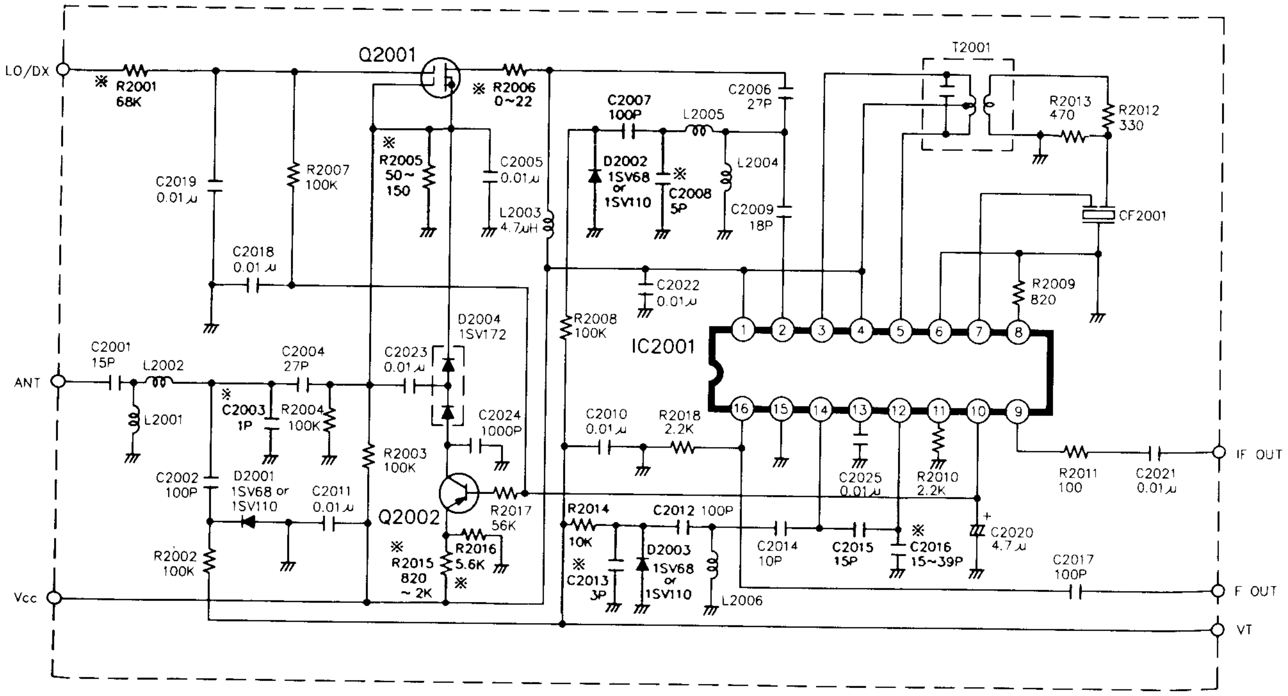
FM Tuner Schematic Diagram

(7280MS/LS Models Only)


LO/DX
3
※R2002
100K
R2010
56K
C2011
4.7μ
C2009
0.01μ
C2010
0.01μ
IC2001
6
F OUT
8
IF OUT
R2008 2.2K
C2008
10P
D2001
SVC211
R2001
100K
R2007
10K
C2016
33P
D2003
SVC211
※
C2019
1P
L2005
R2009
150
CF2001
SFE10.7
MS3W
T2001
C2014
0.01μ
ANT
1
C2001
15P
L2002
L2001
※
C2017
2P
C2002
22P
R2003 47K
5
VT
D2004
MI204
C2013
0.01μ
Q2001
R2012
10
D2002
SVC211
C2006
4P
C2015
0.01μ
Q2002
C2012
0.1μ
D2005
MI204
R2006
100K
L2003
2.2μH
C2004
10P
※
C2018 1P
R2004
47K
L2004
C2003
0.01μ
R2005
470
C2005
15P
C2007
8P
R2011
100
Vcc
4

NOTE : PARTS MARKED ✻ ARE FOR ADJUSTMENT.

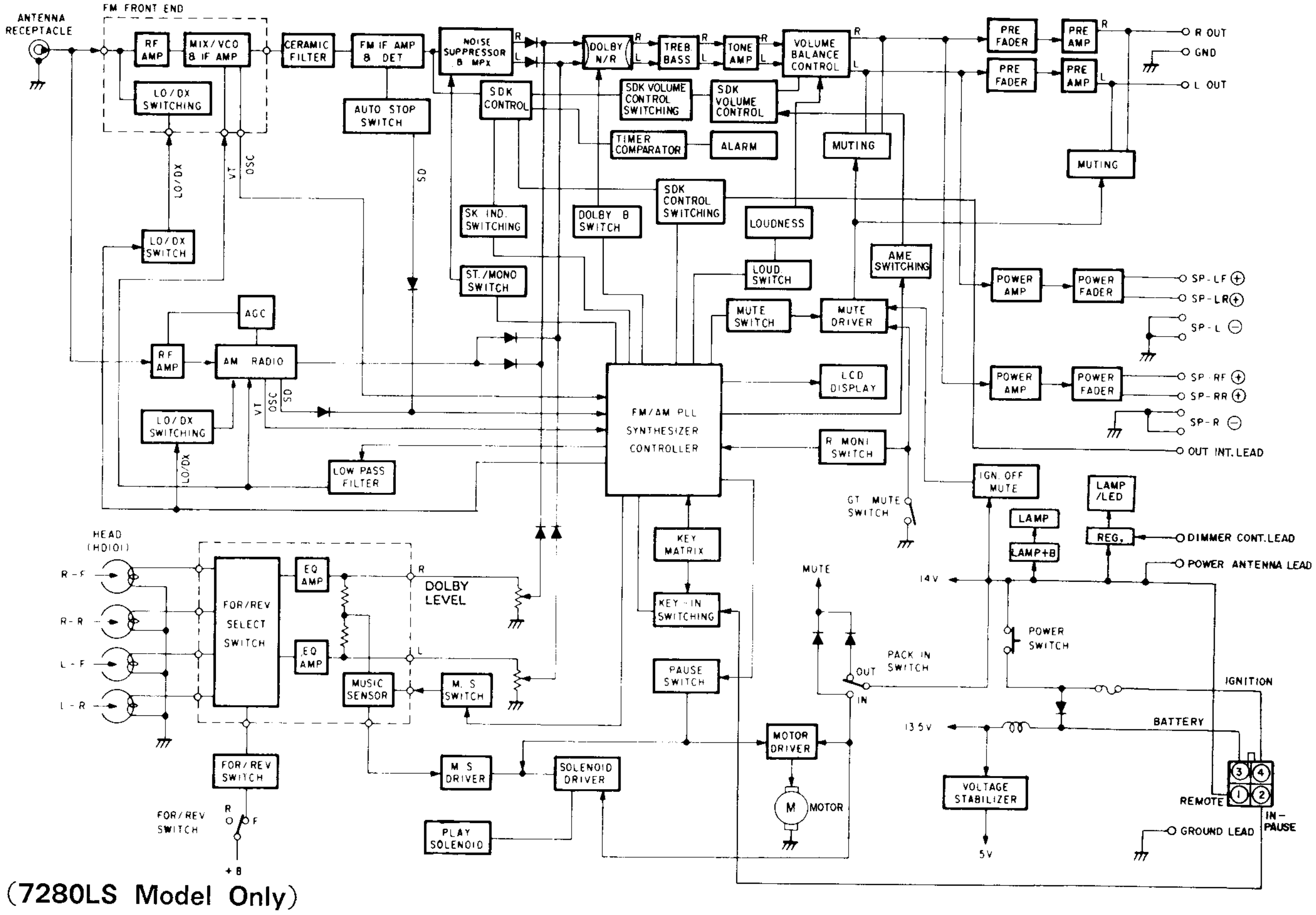
(7280ES Model Only)


LO/DX
※ R2001
68K
Q2001
※ R2006
0~22
C2007
100P
L2005
C2006
27P
T2001
R2013
470
R2012
330
C2019
0.01μ
R2007
100K
※
R2005
50~
150
C2005
0.01μ
L2003
4.7μH
D2002
1SV68
or
1SV110
※
C2008
5P
L2004
C2009
18P
CF2001
C2018
0.01μ
C2022
0.01μ
R2008
100K
R2009
820
IC2001
1
2
3
4
5
6
7
8
16
15
14
13
12
11
10
9
D2004
1SV172
C2001
15P
L2002
ANT
L2001
C2004
27P
※
C2003
1P
R2004
100K
C2023
0.01μ
C2024
1000P
C2010
0.01μ
R2018
2.2K
IF OUT
R2011
100
C2021
0.01μ
C2002
100P
D2001
1SV68 or
1SV110
C2011
0.01μ
R2003
100K
Q2002
R2017
56K
R2014
10K
C2012 100P
C2025
0.01μ
R2010
2.2K
C2020
4.7μ
R2002
100K
※
R2016
5.6K
※
R2015
820
~2K
※
※
C2013
3P
D2003
1SV68
or
1SV110
L2006
C2014
10P
C2015
15P
※
C2016
15~39P
C2017
100P
F OUT
Vcc
VT

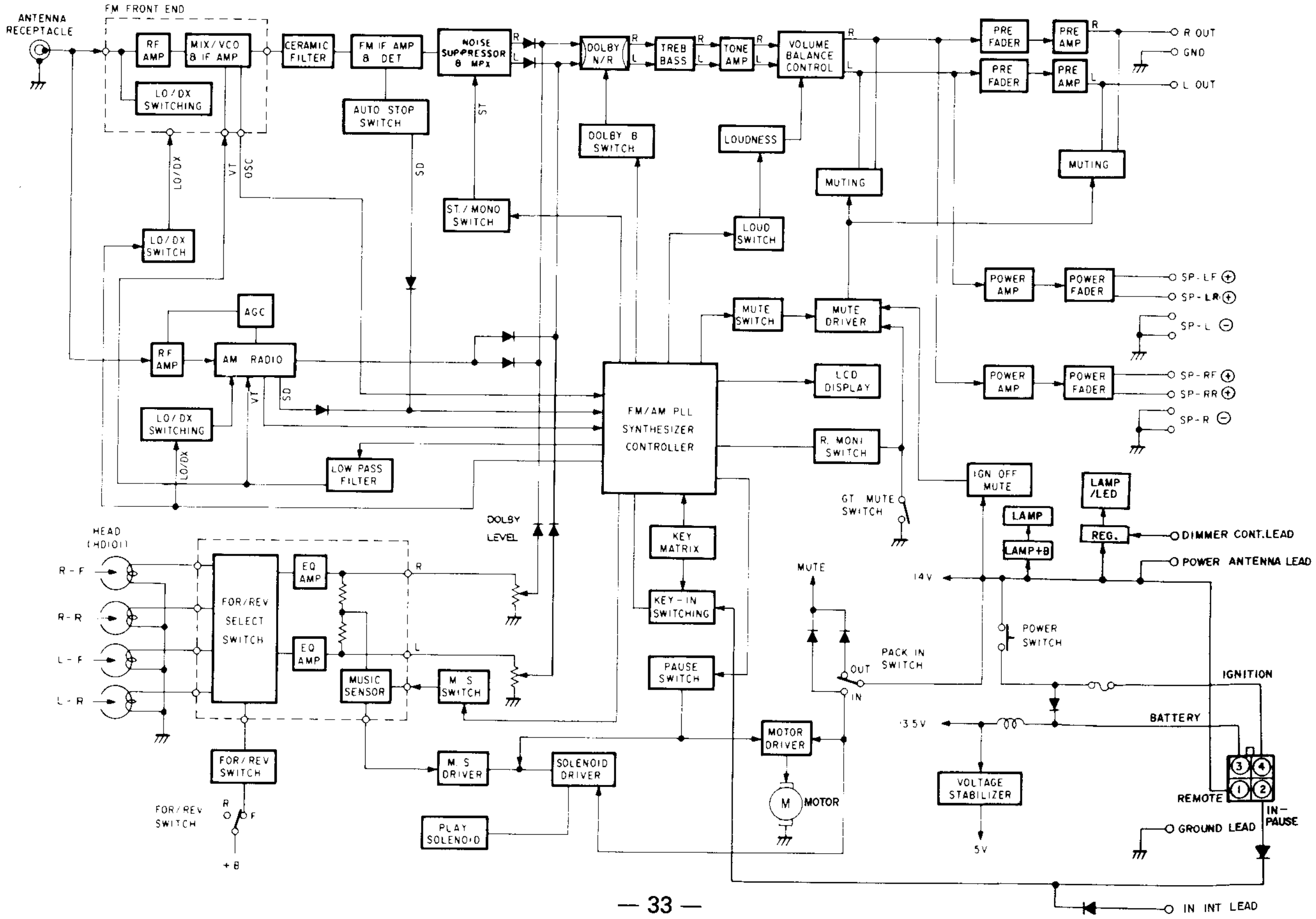
NOTE: PARTS MARKED ✻ ARE FOR ADJUSTMENT.

Block Diagram

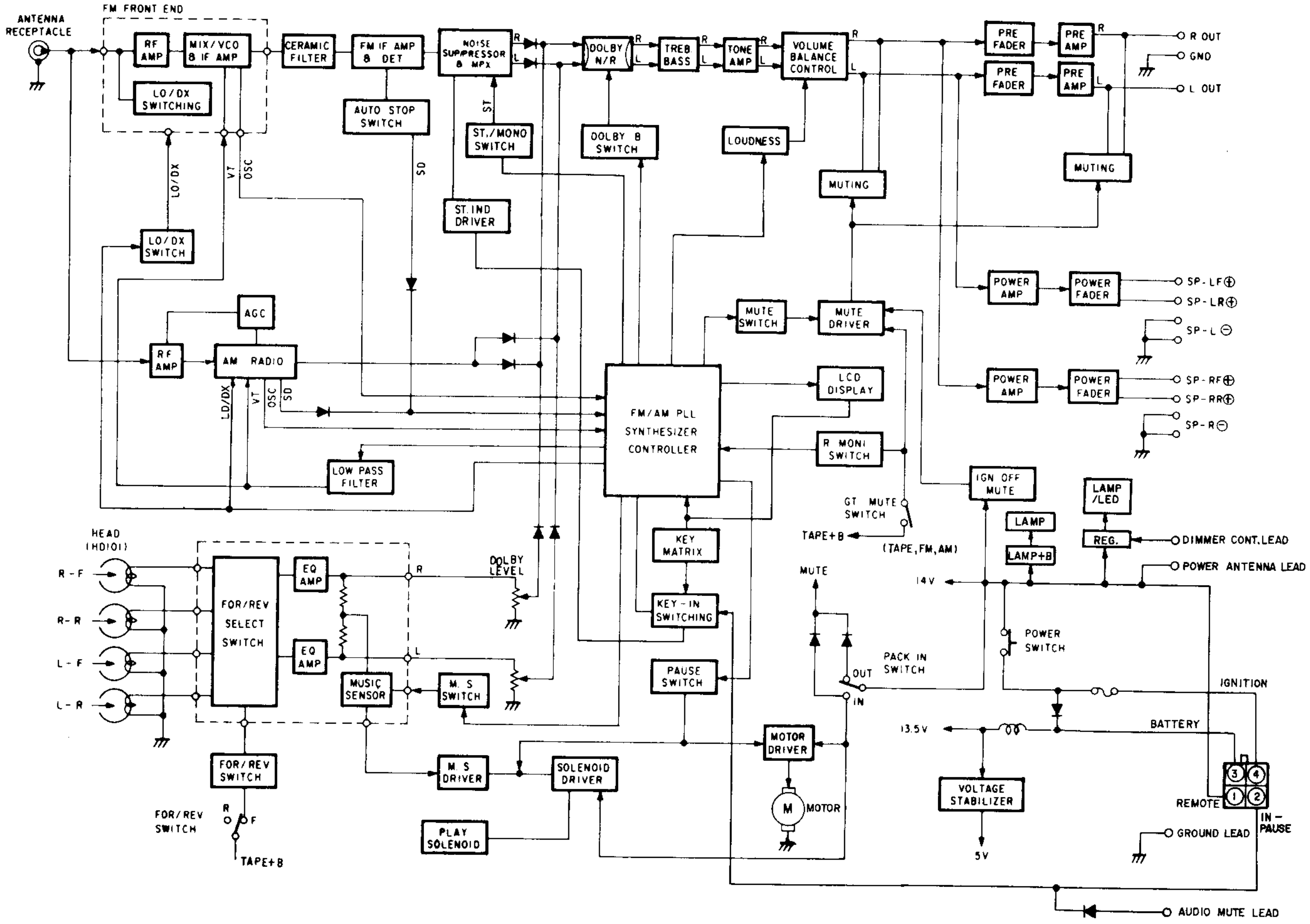
(7280MS Model Only)


ANTENNA RECEPTACLE
FM FRONT END
RF AMP
MIX/VCO 8 IF AMP
LO/DX SWITCHING
CERAMIC FILTER
FM IF AMP 8 DET
NOISE SUPPRESSOR 8 MPX
AUTO STOP SWITCH
SD
DOLBY N/R
TREB BASS
TONE AMP
VOLUME BALANCE CONTROL
SDK CONTROL
SDK VOLUME CONTROL SWITCHING
SDK VOLUME CONTROL
TIMER COMPARATOR
ALARM
MUTING
SK IND. SWITCHING
DOLBY B SWITCH
SDK CONTROL SWITCHING
LOUDNESS
ST./MONO SWITCH
LOUD SWITCH
AME SWITCHING
MUTE SWITCH
MUTE DRIVER
LO/DX
VT
OSC
LO/DX SWITCH
AGC
RF AMP
AM RADIO
LO/DX SWITCHING
LOW PASS FILTER
FM/AM PLL SYNTHESIZER CONTROLLER
LCD DISPLAY
R MONI SWITCH
PRE FADER
PRE AMP
R OUT
GND
L OUT
POWER AMP
POWER FADER
SP-LF ⊕
SP-LR ⊕
SP-L ⊖
SP-RF ⊕
SP-RR ⊕
SP-R ⊖
OUT INT. LEAD
IGN OFF MUTE
GT MUTE SWITCH
LAMP /LED
LAMP
LAMP+B
REG.
DIMMER CONT. LEAD
POWER ANTENNA LEAD
HEAD (HD101)
R-F
R-R
L-F
L-R
FOR/REV SELECT SWITCH
EQ AMP
DOLBY LEVEL
MUSIC SENSOR
M. S SWITCH
KEY MATRIX
KEY-IN SWITCHING
PAUSE SWITCH
MUTE
PACK IN SWITCH
OUT
IN
14V
POWER SWITCH
IGNITION
BATTERY
13.5V
MOTOR DRIVER
MOTOR
M
VOLTAGE STABILIZER
5V
REMOTE
IN-PAUSE
GROUND LEAD
FOR/REV SWITCH
M S DRIVER
SOLENOID DRIVER
PLAY SOLENOID
FOR/REV SWITCH
R
F
+B

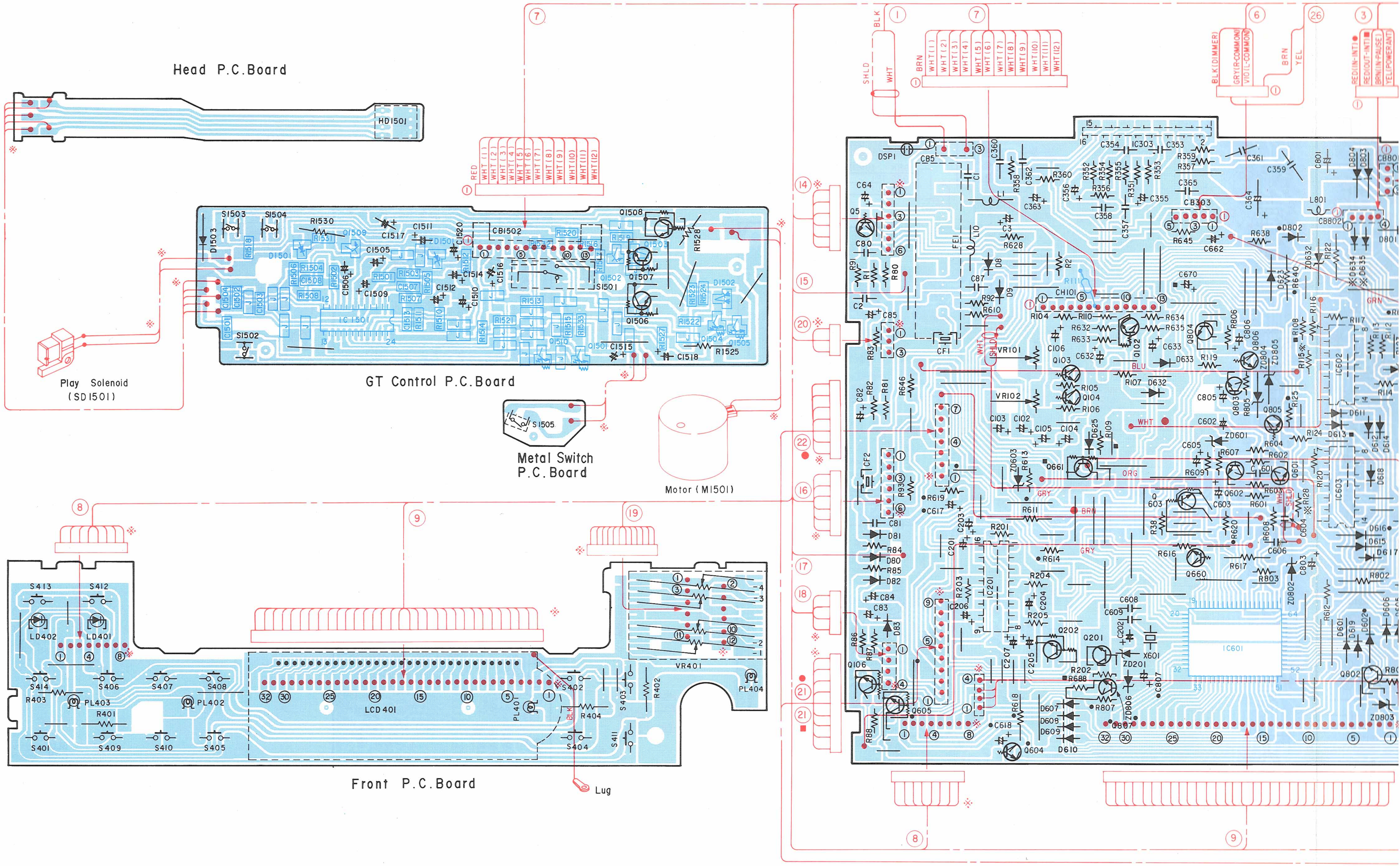
(7280LS Model Only)


ANTENNA RECEPTACLE
FM FRONT END
RF AMP
MIX/VCO 8 IF AMP
LO/DX SWITCHING
CERAMIC FILTER
FM IF AMP 8 DET
NOISE SUPPRESSOR 8 MPX
AUTO STOP SWITCH
ST
SD
DOLBY N/R
TREB BASS
TONE AMP
VOLUME BALANCE CONTROL
DOLBY B SWITCH
LOUDNESS
MUTING
ST./MONO SWITCH
LOUD SWITCH
LO/DX
VT
OSC
LO/DX SWITCH
AGC
RF AMP
AM RADIO
LO/DX SWITCHING
LOW PASS FILTER
MUTE SWITCH
MUTE DRIVER
FM/AM PLL SYNTHESIZER CONTROLLER
LCD DISPLAY
R. MONI SWITCH
PRE FADER
PRE AMP
R OUT
GND
L OUT
POWER AMP
POWER FADER
SP-LF ⊕
SP-LR ⊕
SP-L ⊖
SP-RF ⊕
SP-RR ⊕
SP-R ⊖
IGN OFF MUTE
GT MUTE SWITCH
LAMP /LED
LAMP
LAMP+B
REG.
DIMMER CONT. LEAD
POWER ANTENNA LEAD
DOLBY LEVEL
HEAD (HD101)
R-F
R-R
L-F
L-R
FOR/REV SELECT SWITCH
EQ AMP
MUSIC SENSOR
M. S SWITCH
KEY MATRIX
KEY-IN SWITCHING
PAUSE SWITCH
MUTE
PACK IN SWITCH
OUT
IN
14V
POWER SWITCH
IGNITION
BATTERY
13.5V
MOTOR DRIVER
MOTOR
M
VOLTAGE STABILIZER
5V
REMOTE
IN-PAUSE
GROUND LEAD
FOR/REV SWITCH
M S DRIVER
SOLENOID DRIVER
PLAY SOLENOID
FOR/REV SWITCH
R
F
+B
IN INT LEAD

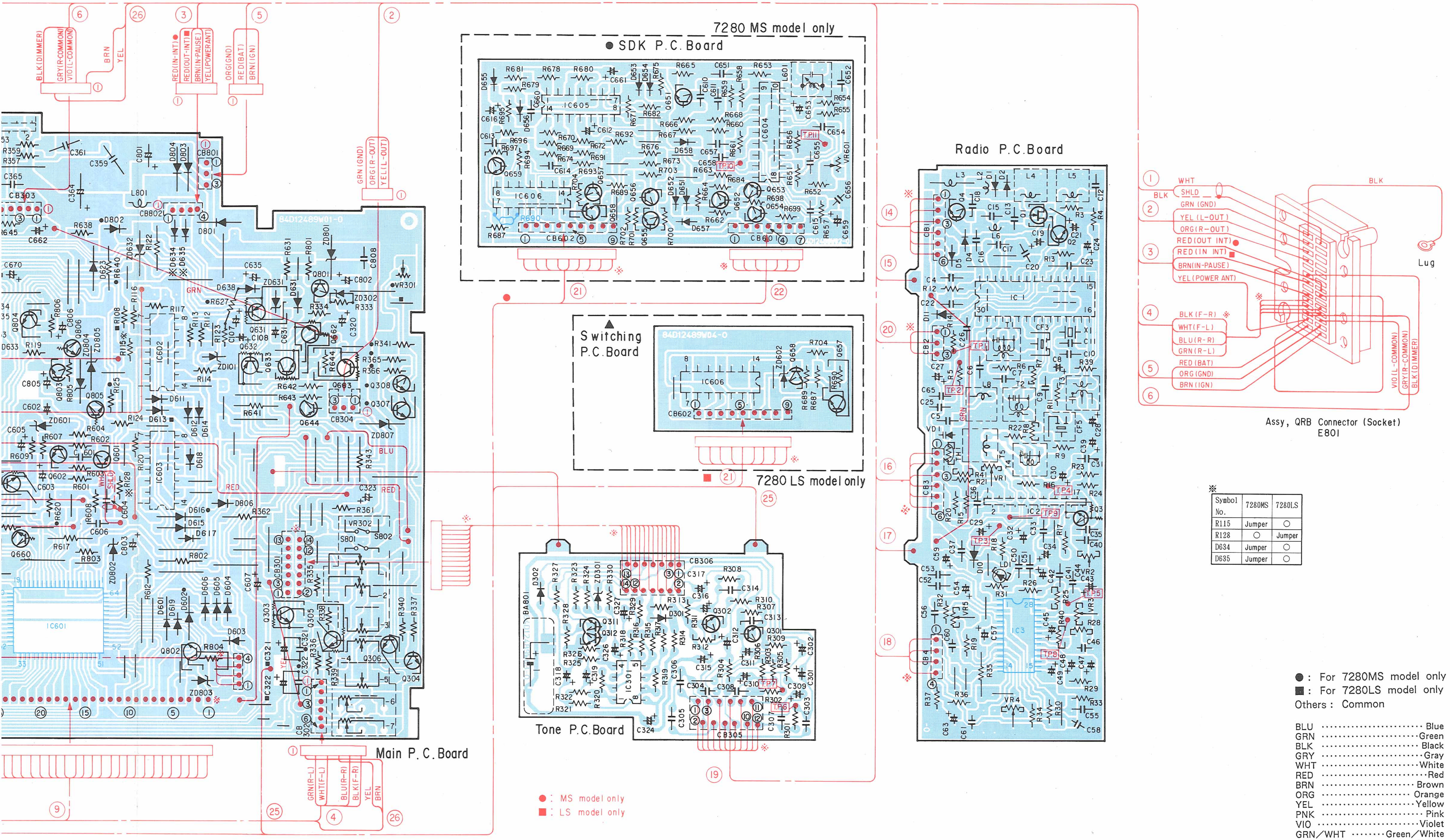
(7280ES Model Only)


ANTENNA RECEPTACLE
FM FRONT END
RF AMP
MIX/VCO & IF AMP
LO/DX SWITCHING
CERAMIC FILTER
FM IF AMP & DET
AUTO STOP SWITCH
NOISE SUPPRESSOR & MPX
ST
ST./MONO SWITCH
ST. IND DRIVER
SD
DOLBY N/R
DOLBY B SWITCH
TREB BASS
TONE AMP
VOLUME BALANCE CONTROL
LOUDNESS
MUTING
PRE FADER
PRE AMP
R OUT
GND
L OUT
R
L
LO/DX
VT
OSC
LO/DX SWITCH
AGC
RF AMP
AM RADIO
LOW PASS FILTER
FM/AM PLL SYNTHESIZER CONTROLLER
MUTE SWITCH
MUTE DRIVER
LCD DISPLAY
R MONI SWITCH
POWER AMP
POWER FADER
SP-LF⊕
SP-LR⊕
SP-L⊖
SP-RF⊕
SP-RR⊕
SP-R⊖
IGN OFF MUTE
GT MUTE SWITCH
TAPE+B
(TAPE, FM, AM)
LAMP /LED
LAMP
LAMP+B
REG.
DIMMER CONT. LEAD
POWER ANTENNA LEAD
14V
HEAD (HD101)
R-F
R-R
L-F
L-R
FOR/REV SELECT SWITCH
EQ AMP
MUSIC SENSOR
M.S SWITCH
DOLBY LEVEL
KEY MATRIX
KEY-IN SWITCHING
PAUSE SWITCH
MUTE
PACK IN SWITCH
OUT
IN
POWER SWITCH
IGNITION
BATTERY
13.5V
MOTOR DRIVER
MOTOR
M
VOLTAGE STABILIZER
5V
REMOTE
IN-PAUSE
GROUND LEAD
AUDIO MUTE LEAD
FOR/REV SWITCH
F
M.S DRIVER
SOLENOID DRIVER
PLAY SOLENOID

Parts Layout on P.C. Boards and Wiring Diagram •7280MS/LS Models Only


Head P.C.Board
HD1501
GT Control P.C.Board
Play Solenoid
(SD1501)
Metal Switch
P.C.Board
S1505
Motor (M1501)
Front P.C.Board
LCD401
VR401
Lug
IC1501
IC601
DSP1
CF1
CF2
X601
VR101
VR102
S401
S402
S403
S404
S405
S406
S407
S408
S409
S410
S411
S412
S413
S414
LD401
LD402
PL401
PL402
PL403
PL404
S1501
S1502
S1503
S1504
BLK
WHT
SHLD
BRN
YEL
RED
GRY
ORG
BLU
GRN

1
2
3
4
5
A
B
C
D
E
F
G
H


7280 MS model only
● SDK P.C. Board
Switching P.C. Board
7280 LS model only
Radio P.C. Board
Main P. C. Board
Tone P.C. Board
Assy, QRB Connector (Socket)
E801
Lug
BLK(DIMMER)
GRY(R-COMMON)
VIO(L-COMMON)
BRN
YEL
RED(IN-INT)●
RED(OUT-INT)■
BRN(IN-PAUSE)
YEL(POWERANT)
ORG(GND)
RED(BAT)
BRN(IGN)
GRN(GND)
ORG(R-OUT)
YEL(L-OUT)
WHT
SHLD
BLK
GRN (GND)
YEL (L-OUT)
ORG(R-OUT)
RED(OUT INT)
RED(IN INT)
BRN(IN-PAUSE)
YEL(POWER ANT)
BLK(F-R)
WHT(F-L)
BLU(R-R)
GRN(R-L)
RED (BAT)
ORG(GND)
BRN(IGN)
VIO(L-COMMON)
GRY(R-COMMON)
BLK(DIMMER)
GRN(R-L)
WHT(F-L)
BLU(R-R)
BLK(F-R)
YEL
BRN
CB801
CB802
CB304
CB301
CB302
CB602
CB601
CB306
CB305
CB1
CB2
CB3
CB4
IC601
IC602
IC603
IC605
IC606
IC301
IC1
IC2
IC3
84D12489W01-0
84D12489W04-0
T.P1
T.P2
T.P3
T.P4
T.P5
T.P6
T.P7
T.P8
T.P9
T.P10
T.P11
●: MS model only
■: LS model only
①
②
③
④
⑤
⑥
⑨
⑭
⑮
⑯
⑰
⑱
⑲
⑳
㉑
㉒
㉕
㉖

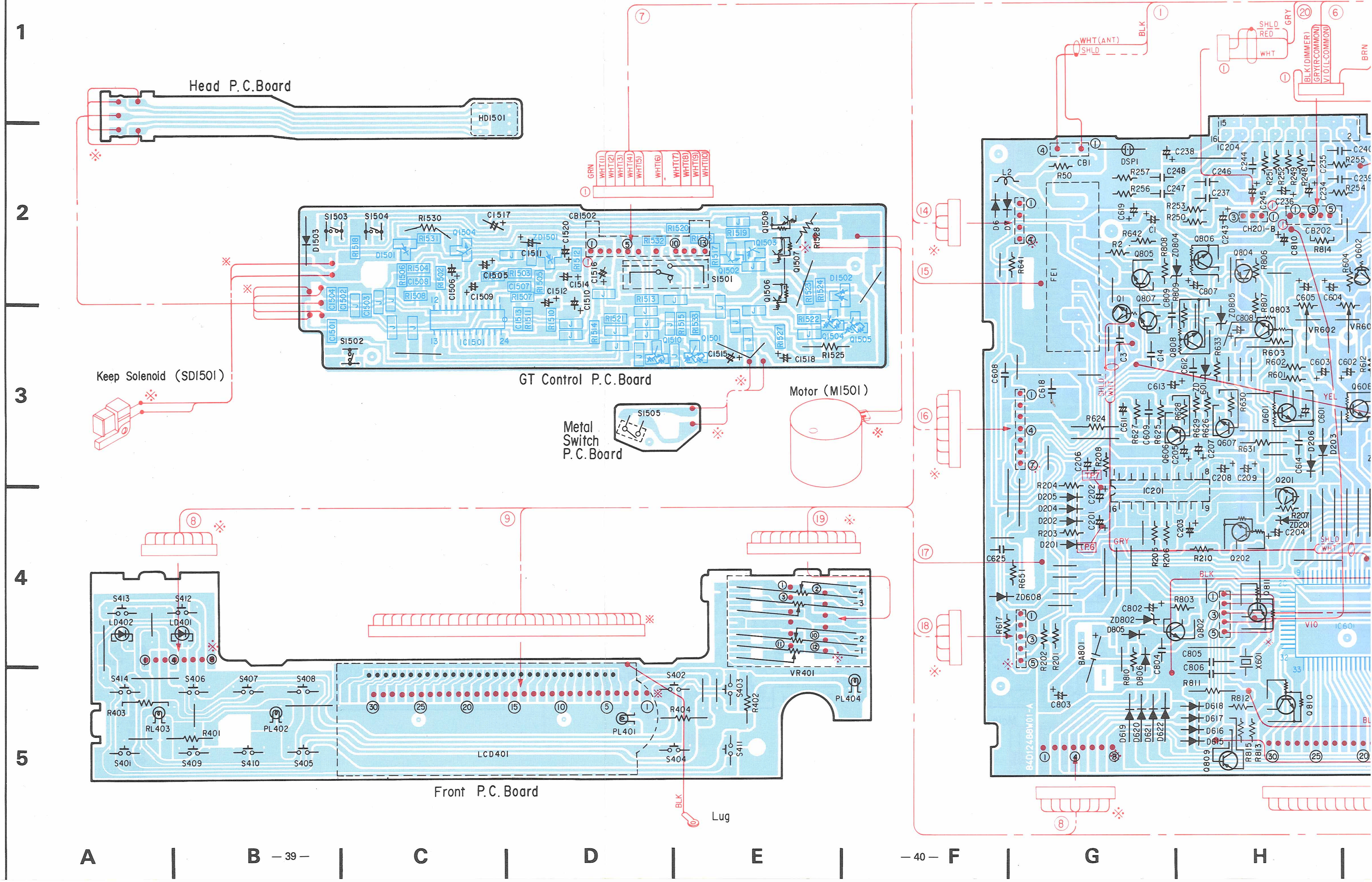
※

Symbol No.	7280MS	7280LS
R115	Jumper	○
R128	○	Jumper
D634	Jumper	○
D635	Jumper	○

● : For 7280MS model only
■ : For 7280LS model only
Others : Common

BLU	Blue
GRN	Green
BLK	Black
GRY	Gray
WHT	White
RED	Red
BRN	Brown
ORG	Orange
YEL	Yellow
PNK	Pink
VIO	Violet
GRN/WHT	Green/White
GRY/WHT	Gray/White
GRY/YEL	Gray/Yellow
GRN/YEL	Green/Yellow
SHLD	Shield

Parts Layout on P.C. Boards and Wiring Diagram ● 7280ES Model Only


1
2
3
4
5
Head P.C.Board
HD1501
GT Control P.C.Board
CB1502
IC1501
S1501
S1502
S1503
S1504
Keep Solenoid (SD1501)
Metal Switch P.C. Board
S1505
Motor (M1501)
Front P.C. Board
LCD401
VR401
PL401
PL402
PL404
RL403
LD401
LD402
BLK
Lug
IC201
IC204
IC601
CH201-B
CB202
CB1
DSP1
FE1
WHT(ANT)
SHLD
RED
WHT
GRY
BRN
YEL
BLK(DIMMER)
GRY(R-COMMON)
VIO(L-COMMON)
GRN
WHT(1)
WHT(2)
WHT(3)
WHT(4)
WHT(5)
WHT(6)
WHT(7)
WHT(8)
WHT(9)
WHT(10)
⑥
⑦
⑧
⑨
⑭
⑮
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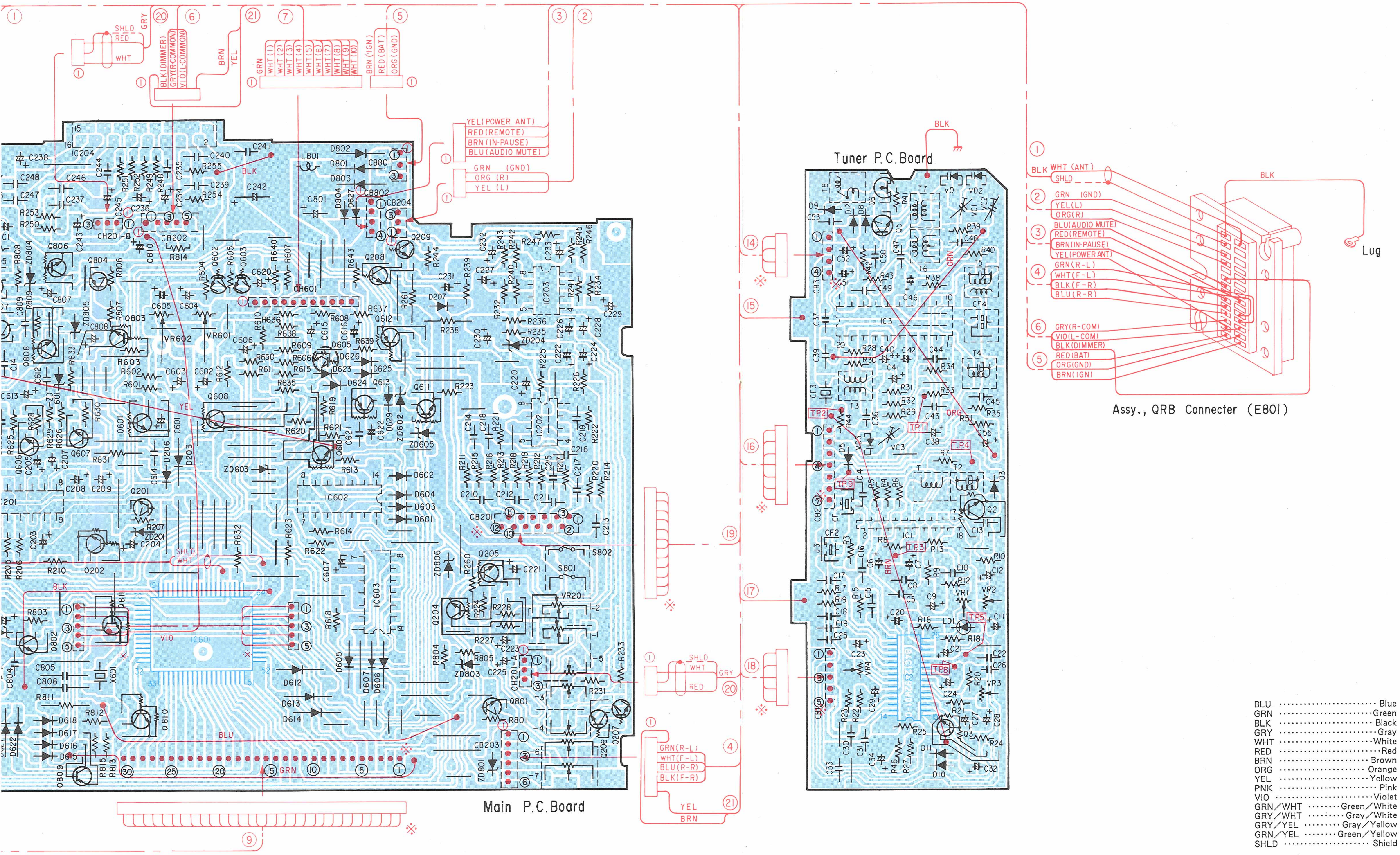
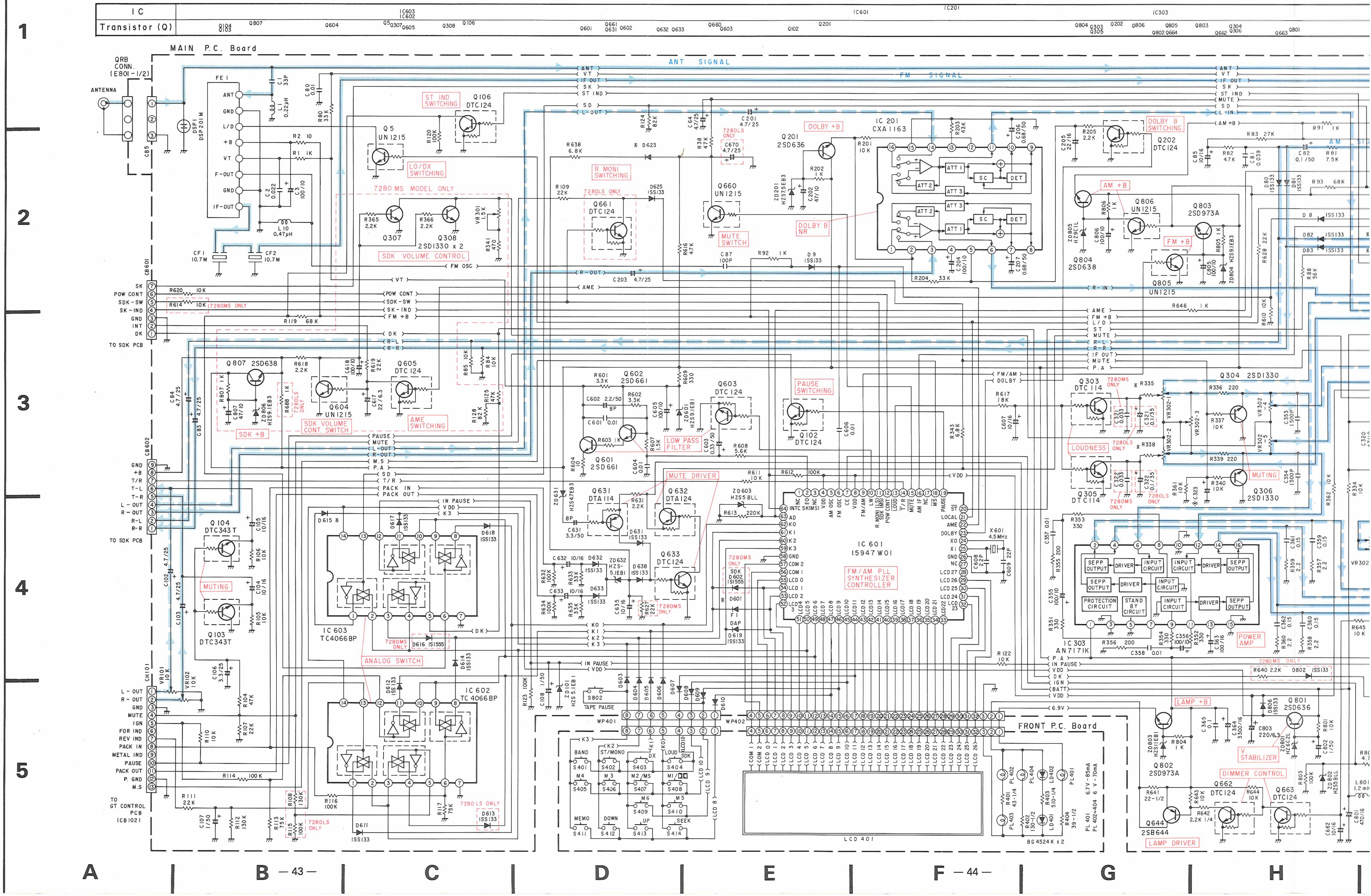
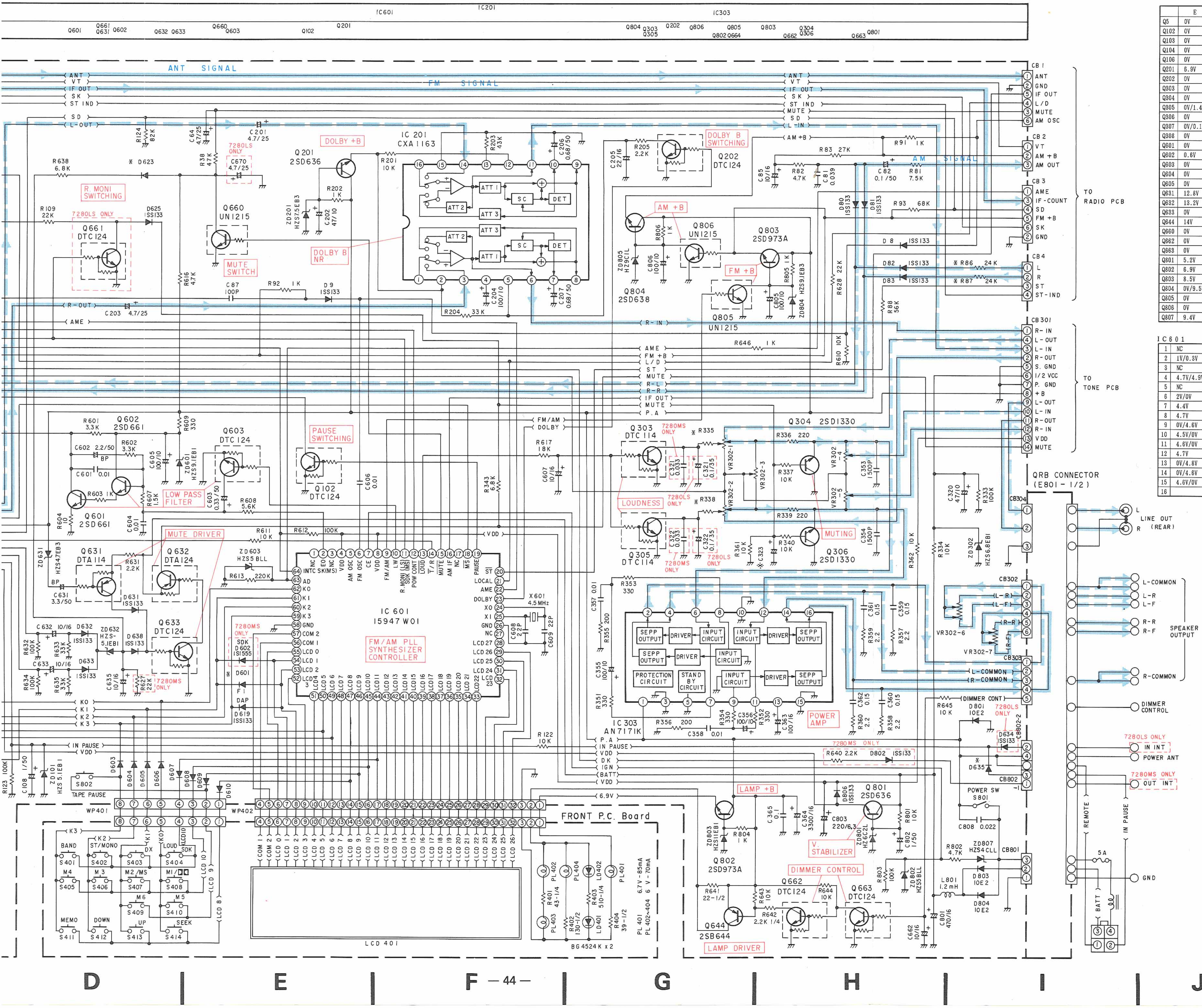
B
C
D
E
F
G
H


Main P.C. Board
Tuner P.C. Board
Assy., QRB Connecter (E801)
Lug
SHLD
RED
WHT
GRY
BLK(DIMMER)
GRY(R-COMMON)
VIO(L-COMMON)
BRN
YEL
GRN
WHT(1)
WHT(2)
WHT(3)
WHT(4)
WHT(5)
WHT(6)
WHT(7)
WHT(8)
WHT(9)
WHT(10)
BRN(IGN)
RED(BAT)
ORG(GND)
YEL(POWER ANT)
RED(REMOTE)
BRN(IN-PAUSE)
BLU(AUDIO MUTE)
GRN (GND)
ORG (R)
YEL (L)
BLK
BLK WHT (ANT)
SHLD
GRN (GND)
YEL(L)
ORG(R)
BLU(AUDIO MUTE)
RED(REMOTE)
BRN(IN-PAUSE)
YEL(POWER ANT)
GRN(R-L)
WHT(F-L)
BLK(F-R)
BLU(R-R)
GRY(R-COM)
VIO(L-COM)
BLK(DIMMER)
RED(BAT)
ORG(GND)
BRN(IGN)
GRN(R-L)
WHT(F-L)
BLU(R-R)
BLK(F-R)
YEL
BRN
IC601
IC602
IC603
IC202
IC203
IC204
IC3
IC2
IC1
CH601
CH201-A
CH201-B
CB201
CB202
CB203
CB204
CB801
CB802
S801
S802
VR201
VR601
VR602
T.P.1
T.P.2
T.P.3
T.P.4
T.P.5
T.P.8
T.P.9
※

BLU	Blue
GRN	Green
BLK	Black
GRY	Gray
WHT	White
RED	Red
BRN	Brown
ORG	Orange
YEL	Yellow
PNK	Pink
VIO	Violet
GRN/WHT	Green/White
GRY/WHT	Gray/White
GRY/YEL	Gray/Yellow
GRN/YEL	Green/Yellow
SHLD	Shield

Schematic Diagram (1/2) ●7280MS/LS Models Only


1
2
3
4
5
IC
Transistor (Q)
MAIN P.C. Board
QRB CONN. (E801-1/2)
ANTENNA
FE 1
ANT SIGNAL
FM SIGNAL
ST IND SWITCHING
Q106 DTC124
LO/DX SWITCHING
Q5 UN1215
7280 MS MODEL ONLY
Q307
Q308 2SD1330 x 2
SDK VOLUME CONTROL
R MONI SWITCHING
Q661 DTC124
7280LS ONLY
Q660 UN1215
MUTE SWITCH
Q201 2SD636
DOLBY +B
IC 201 CXA1163
DOLBY B NR
DOLBY B SWITCHING
Q202 DTC124
AM +B
FM +B
Q806 UN1215
Q803 2SD973A
Q804 2SD638
Q805 UN1215
TO SDK PCB
Q807 2SD638
Q604 UN1215
Q605 DTC124
SDK VOLUME CONT. SWITCH
AME SWITCHING
SDK +B
Q602 2SD661
Q601 2SD661
LOW PASS FILTER
Q603 DTC124
PAUSE SWITCHING
Q102 DTC124
Q303 DTC114
Q304 2SD1330
LOUDNESS
MUTING
Q305 DTC114
Q306 2SD1330
Q104 DTC343T
Q103 DTC343T
MUTING
Q631 DTA114
Q632 DTA124
MUTE DRIVER
Q633 DTC124
IC 601 15947W01
FM/AM PLL SYNTHESIZER CONTROLLER
X601 4.5MHz
IC 603 TC4066BP
IC 602 TC4066BP
ANALOG SWITCH
7280MS ONLY
IC 303 AN7171K
SEPP OUTPUT
DRIVER
INPUT CIRCUIT
PROTECTION CIRCUIT
STAND BY CIRCUIT
POWER AMP
VR302
TO GT CONTROL PCB (CB102)
TAPE PAUSE
FRONT P.C. Board
LCD 401
BG4524K x 2
LAMP +B
Q802 2SD973A
Q801 2SD636
V. STABILIZER
DIMMER CONTROL
Q662 DTC124
Q663 DTC124
Q644 2SB644
LAMP DRIVER
A
B
C
D
E
F
G
H


IC601
IC201
IC303
Q601
Q661
Q631
Q602
Q632
Q633
Q660
Q603
Q102
Q201
Q804
Q303
Q305
Q202
Q806
Q805
Q802
Q664
Q803
Q662
Q304
Q306
Q663
Q801
ANT
VT
IF OUT
SK
ST IND
SD
L-OUT
ANT SIGNAL
FM SIGNAL
AM SIGNAL
R-OUT
AME
R MONI SWITCHING
7280LS ONLY
MUTE SWITCH
DOLBY +B
DOLBY B NR
IC 201
CXA1163
Q201
2SD636
ATT 1
ATT 2
ATT 3
SC
DET
DOLBY B SWITCHING
Q202
DTC124
AM +B
Q806
UN1215
Q803
2SD973A
FM +B
Q804
2SD638
Q805
UN1215
CB1
CB2
CB3
CB4
CB301
AM OSC
AM OUT
IF-COUNT
FM +B
ST-IND
TO RADIO PCB
R-IN
L-OUT
L-IN
R-OUT
S. GND
1/2 VCC
P. GND
+B
VDD
MUTE
TO TONE PCB
Q602
2SD661
Q603
DTC124
PAUSE SWITCHING
Q102
DTC124
LOW PASS FILTER
Q601
2SD661
MUTE DRIVER
Q631
DTA114
Q632
DTA124
Q633
DTC124
7280MS ONLY
SDK
IC 601
15947W01
FM/AM PLL SYNTHESIZER CONTROLLER
X601
4.5MHz
Q303
DTC114
Q304
2SD1330
LOUDNESS
MUTING
Q305
DTC114
Q306
2SD1330
QRB CONNECTOR
(E801-1/2)
CB304
LINE OUT
(REAR)
L-COMMON
R-COMMON
SPEAKER OUTPUT
IC 303
AN7171K
SEPP OUTPUT
DRIVER
INPUT CIRCUIT
PROTECTION CIRCUIT
STAND BY CIRCUIT
POWER AMP
CB302
CB303
VR302-6
VR302-7
DIMMER CONTROL
POWER ANT
IN INT
OUT INT
7280LS ONLY
7280MS ONLY
POWER SW
S801
CB802
CB801
LAMP +B
Q801
2SD636
V. STABILIZER
DIMMER CONTROL
Q802
2SD973A
Q644
2SB644
LAMP DRIVER
Q662
DTC124
Q663
DTC124
REMOTE
IN PAUSE
BATT
GND
5A
WP401
WP402
FRONT P.C. Board
S802
TAPE PAUSE
BAND
ST/MONO
DX
LOUD
SDK
M4
M3
M2/MS
M1/
M5
M6
MEMO
DOWN
UP
SEEK
LCD 401
BG4524K x 2
D
E
F
G
H
I
J
K

	E	C	B	MODE
Q5	0V	0V/8.2V	2.2V/0V	L/D
Q102	0V	9.5V/0V	0V/4.3V	PAUSE ON/OFF
Q103	0V	0V	1.2V/0V	FF.REW/PLAY
Q104	0V	0V	1.2V/0V	FF.REW/PLAY
Q106	0V	12.6V/0V	0.7V/8.2V	ST/MO
Q201	6.9V	13.8V	7.5V	
Q202	0V	0V/6.5V	0.7V/0V	DOLBY ON/OFF
Q303	0V	0V	0V/1.5V	LOUD ON/OFF
Q304	0V	0V	0V	
Q305	0V/1.4V	0.2V/0V	0V	LOUD ON/OFF
Q306	0V	0V	0V	
Q307	0V/0.1V	0V	0V/0.6V	SDK ON/OFF
Q308	0V	0V	0V/0.6V	SDK ON/OFF
Q601	0V	3.8V	0.6V	
Q602	0.6V	9.5V	1V	
Q603	0V	0V	4.5V	
Q604	0V	2.2V	0.2V	
Q605	0V	0V/0.25V	4.7V/0V	AME ON/OFF
Q631	12.8V	0.2V	12.8V	
Q632	13.2V	0.2V	12.8V	
Q633	0V	13.2V	0V	BUZ ON/OFF
Q644	14V	11.3V	14V	
Q660	0V	10.9V/0V	0V/4.6V	MUTE ON/OFF
Q662	0V	14V	0V	
Q663	0V	0V	9.9V	
Q801	5.2V	13.3V	5.8V	
Q802	6.9V	13.8V	7.5V	
Q803	8.5V	13.8V	9.2V/0.1V	FM/MW.LW
Q804	0V/9.5V	13.8V	0V/9.5V	FM/MW.LW
Q805	0V	9.3V/0.1V	0.5V/3.6V	FM/MW.LW
Q806	0V	0V/9.5V	8.5V/0V	FM/MW.LW
Q807	9.4V	13.7V	9.1V	FM/MW.LW

IC303

1	14.4V
2	7.1V
3	0V
4	7V
5	0V
6	0V
7	1.3V
8	1.3V
9	1.3V
10	0V
11	1.3V
12	0V
13	14.4V
14	7.2V
15	0V
16	7.1V

IC602

1	PS
2	PS
3	PS
4	PS
5	0V
6	5.2V
7	0V
8	PS
9	PS
10	PS
11	PS
12	5.6V
13	5.5V
14	5.6V

IC603

1	PS
2	PS
3	PS
4	PS
5	5V
6	5V
7	0V
8	PS
9	PS
10	PS
11	PS
12	5.6V
13	5V
14	5.6V

IC201

	DOLBY ON	DOLBY OFF
1	—	—
2	6.8V	6.8V
3	3.4V	3.4V
4	3.4V	3.4V
5	0.4V	6.8V
6	3.5V	3.5V
7	0.6V	0.4V
8	3.5V	3.5V
9	3.5V	3.5V
10	0.6V	0.4V
11	3.5V	3.5V
12	6.8V	6.8V
13	1.1V	1.1V
14	3.4V	3.4V
15	0V	0V
16	3.2V	3.4V

IC601

1	NC		17	NC		33	PS		49	PS	
2	1V/0.3V		18	0V/4.8V	M.S ON/OFF	34	PS		50	PS	
3	NC		19	4.8V/0V	PAUSE ON/OFF	35	PS		51	PS	
4	4.7V/4.9V		20	0V/4.6V	ST/MO	36	PS		52	PS	
5	NC		21	2.2V/0V	L/D	37	PS		53	PS	
6	2V/0V		22	4.7V/0V	AME ON/OFF	38	PS		54	PS	
7	4.4V		23	4.7V/0V	DOLBY ON/OFF	39	PS		55	PS	
8	4.7V		24	2.9V		40	PS		56	PS	
9	0V/4.6V	FM/LW.MW	25	2.5V		41	PS		57	PS	
10	4.5V/0V	LW/FM.MW	26	0V		42	PS		58	0V	
11	4.6V/0V	SDK ON/OFF	27	NC		43	PS		59	PS	
12	4.7V		28	NC		44	PS		60	PS	
13	0V/4.8V	LOUD ON/OFF	29	PS		45	PS		61	PS	
14	0V/4.6V	T/R	30	PS		46	PS		62	PS	
15	4.6V/0V	MUTE ON/OFF	31	PS		47	PS		63	4.7V	
16			32	PS		48	PS		64	0V/4.7V	SK ON/OFF

[Measuring Conditions]
- Power Supply : DC14.4V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Condition : No Signal input

Note : Refer to the table below for ※ marks.

	7280MS	7280LS
D601, 615, 623	1S1555	1SS133
D635	Jumper	1SS133
C323	22/16	33/16
R 86, 87	24K	33K
R335, 338	5.6K	2.2K

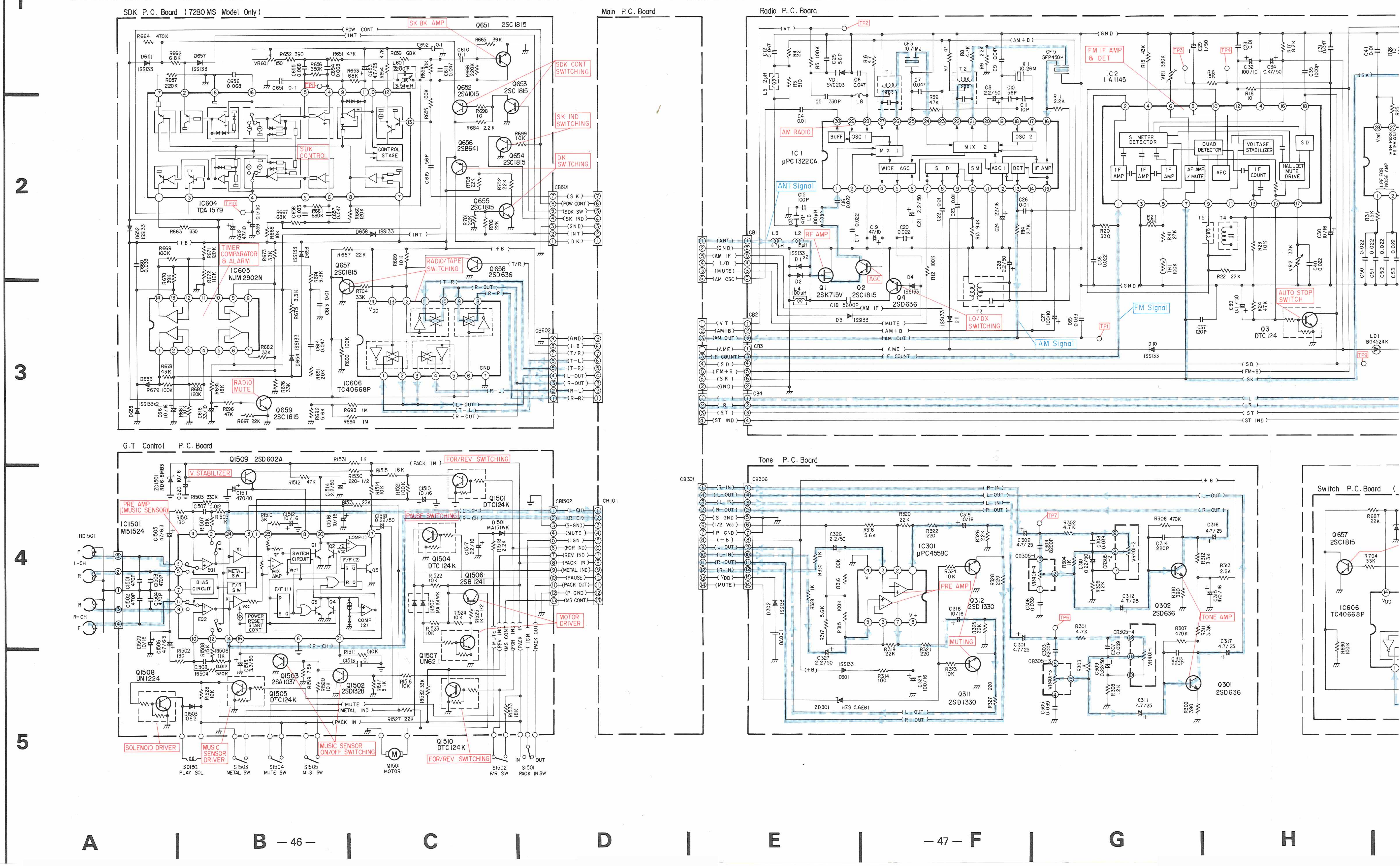
NOTES:

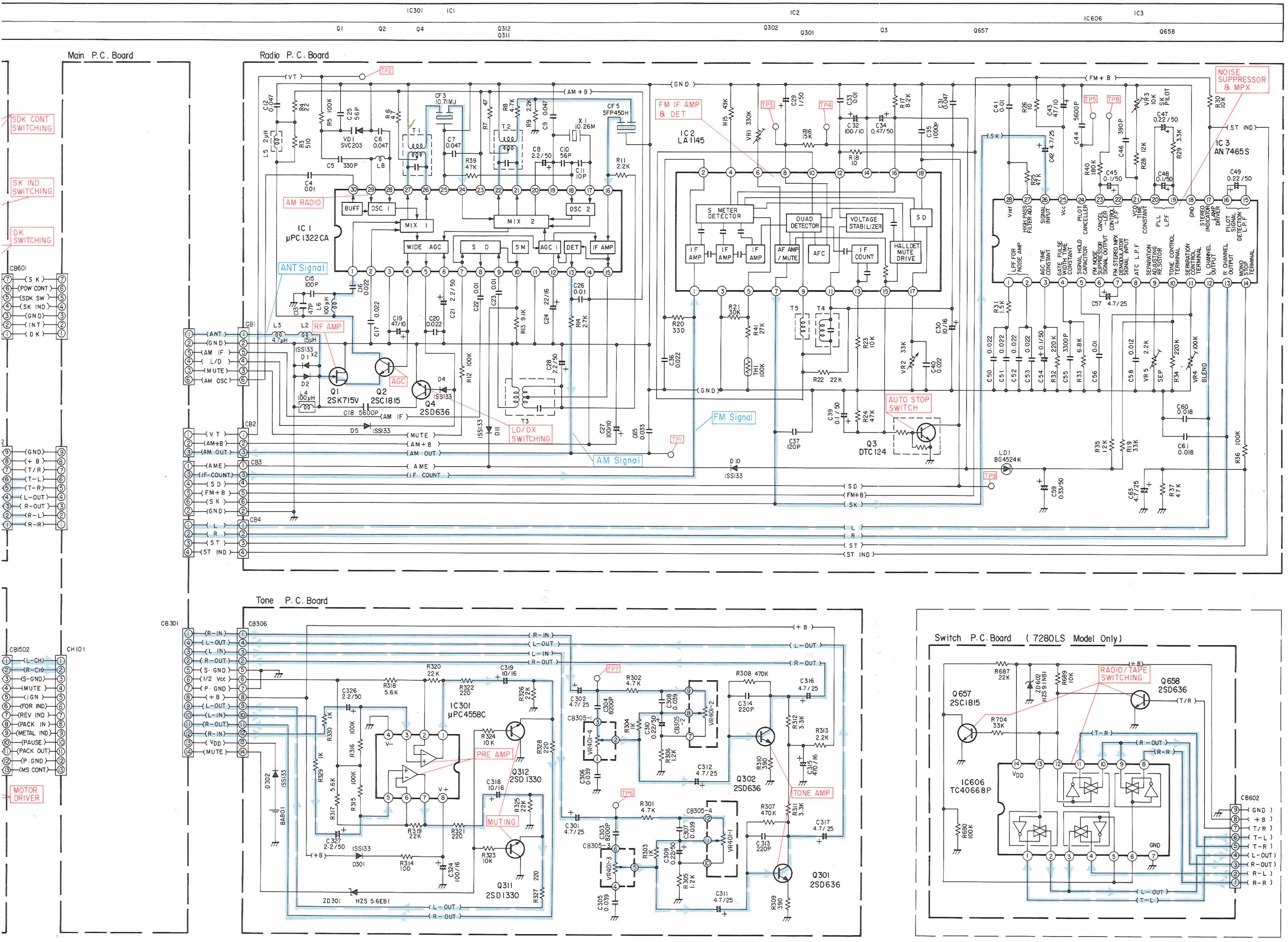
1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

Schematic Diagram (2/2) ●7280MS/LS Models Only

IC: IC604 IC605 IC1501 IC606 IC301 IC1 IC2

Transistor (Q): Q1508 Q1509 Q659 Q1505 Q1503 Q1502 Q657 Q651～Q656 Q1504 Q1501 Q1506 Q658 Q1510 Q1507 Q1 Q2 Q4 Q312 Q311 Q302 Q301 Q3 Q657


1
2
3
4
5
A
B
C
D
E
F
G
H
SDK P.C. Board (7280MS Model Only)
Main P.C. Board
Radio P.C. Board
G.T Control P.C. Board
Tone P.C. Board
Switch P.C. Board
SK BK AMP
SDK CONT SWITCHING
SK IND SWITCHING
DK SWITCHING
SDK CONTROL
CONTROL STAGE
IC604 TDA 1579
IC605 NJM 2902N
TIMER COMPARATOR & ALARM
RADIO/TAPE SWITCHING
IC606 TC40668P
RADIO MUTE
Q651 2SC1815
Q652 2SA1015
Q653 2SC1815
Q654 2SC1815
Q655 2SC1815
Q656 2SB641
Q657 2SC1815
Q658 2SD636
Q659 2SC1815
CB601
CB602
AM RADIO
ANT Signal
RF AMP
AGC
LO/DX SWITCHING
AM Signal
FM Signal
FM IF AMP & DET
AUTO STOP SWITCH
IC1 μPC1322CA
IC2 LA1145
Q1 2SK715V
Q2 2SC1815
Q4 2SD636
Q3 DTC124
CB1
CB2
CB3
CB4
TP1
TP2
TP3
TP4
TP5
Q1509 2SD602A
V. STABILIZER
PRE AMP (MUSIC SENSOR)
IC1501 M51524
FOR/REV SWITCHING
PAUSE SWITCHING
MOTOR DRIVER
SOLENOID DRIVER
MUSIC SENSOR DRIVER
MUSIC SENSOR ON/OFF SWITCHING
Q1501 DTC124K
Q1502 2SD1328
Q1503 2SA1037
Q1504 DTC124K
Q1505 DTC124K
Q1506 2SB1241
Q1507 UN6211
Q1508 UN1224
Q1510 DTC124K
HD1501
CB1502
CH101
SD1501 PLAY SOL
S1503 METAL SW
S1504 MUTE SW
S1505 M.S SW
M1501 MOTOR
S1502 F/R SW
S1501 PACK IN SW
CB301
CB306
IC301 μPC4558C
PRE AMP
MUTING
TONE AMP
Q301 2SD636
Q302 2SD636
Q311 2SD1330
Q312 2SD1330
TP6
TP7
Q657 2SC1815
IC606 TC40668P


IC301
IC1
IC2
IC3
IC606
Q1
Q2
Q4
Q312
Q311
Q302
Q301
Q3
Q657
Q658
Main P.C. Board
Radio P.C. Board
Tone P.C. Board
Switch P.C. Board (7280LS Model Only)
SDK CONT SWITCHING
SK IND SWITCHING
DK SWITCHING
MOTOR DRIVER
CB601
CB1
CB2
CB3
CB4
CB301
CB306
CB1502
CH101
CB602
AM RADIO
IC1 μPC1322CA
ANT Signal
RF AMP
AGC
LO/DX SWITCHING
AM Signal
FM Signal
FM IF AMP & DET
IC2 LA1145
AUTO STOP SWITCH
NOISE SUPPRESSOR & MPX
IC3 AN7465S
BUFF
OSC 1
MIX 1
MIX 2
OSC 2
WIDE AGC
SD
SM
AGC 1
DET
IF AMP
S METER DETECTOR
QUAD DETECTOR
VOLTAGE STABILIZER
IF AMP
AF AMP / MUTE
AFC
IF COUNT
HALL DET MUTE DRIVE
Q1 2SK715V
Q2 2SC1815
Q4 2SD636
Q3 DTC124
LD1 BG4524K
CF3 10.7MJ
CF5 SFP450H
X1 10.26M
VD1 SVC203
D10 1SS133
D5 1SS133
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
IC301 μPC4558C
PRE AMP
MUTING
TONE AMP
Q312 2SD1330
Q311 2SD1330
Q302 2SD636
Q301 2SD636
ZD301 HZS 5.6EB1
D301
D302 1SS133
VR401-1
VR401-2
VR401-3
VR401-4
CB305-1
CB305-2
CB305-3
CB305-4
RADIO/TAPE SWITCHING
Q657 2SC1815
Q658 2SD636
IC606 TC4066BP
ZD602 HZS 9.1NB1
ANT
GND
AM IF
L/D
MUTE
AM OSC
VT
AM+B
AM OUT
AME
IF COUNT
SD
FM+B
SK
L
R
ST
ST IND
R-IN
L-OUT
L-IN
R-OUT
S-GND
1/2 Vcc
P. GND
+B
VDD
T/R
T-L
T-R
R-L
R-R
L-CH
R-CH
POW CONT
SDK SW
SK IND
DK
INT
IGN
FOR IND
REV IND
METAL IND
PAUSE
PACK IN
PACK OUT
MS CONT
LPF FOR NOISE AMP
HIGH PASS FILTER
AGC TIME CONSTANT
GATE PULSE WIDTH TIME CONSTANT
SIGNAL HOLD CAPACITOR
FM NOISE SUPPRESSOR SIGNAL OUTPUT
FM STEREO MPX DEMODULATOR SIGNAL INPUT
ATC L.P.F
SEPARATION ADJUSTING RESISTOR
TONE CONTROL TERMINAL
SEPARATION CONTROL TERMINAL
L CHANNEL OUTPUT
R CHANNEL OUTPUT
MONO STOP TERMINAL
PILOT SIGNAL DETECTOR L.P.F
STEREO INDICATOR LAMP DRIVER
PLL L.P.F
VCO TIME CONSTANT
CANCEL LEVEL CONTROL
PILOT CANCELLER
SIGNAL INPUT
Vref
BLEND
SEP
ST IND

	E	C	B	MODE
Q2	1.2V	8.5V	0.6V	
Q3	0.3V	3.8V	0V	
Q4	0V	4.7V	0V	
Q301	1.1V	3.6V	0.5V	
Q302	1.1V	3.6V	0.5V	
Q311	0V	0V	0.6V/0V	MUTE ON/OFF
Q312	0V	0V	0.6V/0V	MUTE ON/OFF
Q651	0V	4.4V	0.6V	
Q651	0V	0V/5.8V	0.6V/0.1V	SDK ON/OFF
Q652	8.4V/8.4V	8.4V/0V	7.7V/8.2V	SDK ON/OFF
Q653	0V	0V/8.2V	0.7V/0V	SDK ON/OFF
Q654	0V	0V/3.2V	0.6V/0.1V	SK ON/OFF
Q655	0V	5.8V/5.8V	0.1V/0.1V	DK ON/OFF
Q656	0V	0V	0.6V/0.6V	DK ON/OFF
Q657	0V	0V/5.7V	0.6V/0V	TAPE/RADIO
Q658	0V	4.5V/0V	0V/0.6V	TAPE/RADIO
Q659	0V	7V/0V	0V/0.6V	TAPE/RADIO
Q1501	0V*	0V/12.4V*	6.3V/0V*	FOR/REV
Q1502	0V*	0V*	0V*	
Q1503	0.49V*	0V*	0V*	
Q1504	0V*	13.9V*	0V*	
Q1505	0V*	3.18V*	0V*	
Q1506	13.9V*	13.5V*	13.16V*	
Q1507	0V*	0.06V*	7.14V*	
Q1508	0V*	13.92V*	3.46V*	
Q1509	6.4V*	11.96V*	7V*	
Q1510	0V*	0V/6V*	4.3V/0V*	FOR/REV

IC604 (SK/DK)

1	0V	10	4.2V
2	0.1V/5.9V	11	5.2V/4.6V
3	4.5V	12	4V
4	6.9V	13	4.3V
5	4.2V	14	4.2V
6	4.2V	15	4.4V
7	8.4V	16	0V/6.9V
8	4.2V	17	3.4V
9	5.2V	18	0V

IC605

1	7.2V
2	1.5V
3	5.2V
4	8.4V
5	5.2V
6	0.6V
7	7.2V
8	0.6V
9	5.2V
10	0V
11	0V
12	2.7V
13	6.6V
14	0.6V

IC606 (TAPE/RADIO)

1	0V
2	0V
3	0V
4	0V
5	0V/5.7V
6	0V/5.7V
7	0V
8	0V
9	0V
10	0V
11	0V
12	4.5V/0V
13	4.5V/0V
14	5.7V

IC1

1	3.5V	16	3.6V
2	3.5V	17	4.8V
3	0V	18	4.7V
4	1.2V	19	6.1V
5	1.2V	20	6.2V
6	2V	21	8.4V
7	0.2V	22	8.4V
8	0.1V	23	8.8V
9	4.8V	24	3.6V
10	3.4V	25	0V
11	0V	26	8.5V
12	3.1V	27	8.5V
13	3.1V	28	6.1V
14	8.8V	29	6.1V
15	3.6V	30	3.3V

IC301

1	6.9V
2	6.8V
3	5.9V
4	0V
5	6.3V
6	6.7V
7	6.7V
8	12.9V

Q1

G	0V
S	0V
D	0.6V

IC2

1	2.7V	10	4.9V
2	2.7V	11	4.9V
3	0V	12	8.3V
4	4V	13	0V
5	4.8V	14	0V
6	2.1V	15	0V
7	5V	16	4.7V
8	4.9V	17	4.6V
9	4.9V	18	4.7V

IC1501

1	0V	FOR	13	0V*	NORMAL
	5.97V	REV		6.22V*	METAL
2	2.85V*		14		
3	2.76V*		15	—	
4	2.76V*		16	0.49V*	
5	2.76V*		17		
6	0V		18	—	
7	2.76V*		19	—	
8	12.35V*		20		
9	2.76V*		21		
10	2.76V*		22	—	
11	2.76V*		23	2.16V*	
12	2.83V*		24		

IC3

1	2.4V	15	2.5V
2	1.7V	16	2.5V
3	1.3V	17	8.2V/0.7V
4	0V	18	0V
5	2.4V	19	2.5V
6	1.2V	20	2.4V
7	1.1V	21	1.2V
8	1.8V	22	1.8V
9	0.1V	23	1.9V
10	2.5V	24	2.3V
11	1.7V	25	8.4V
12	2.8V	26	2.1V
13	2.8V	27	2.2V
14	2.2V/0V	28	2.4V

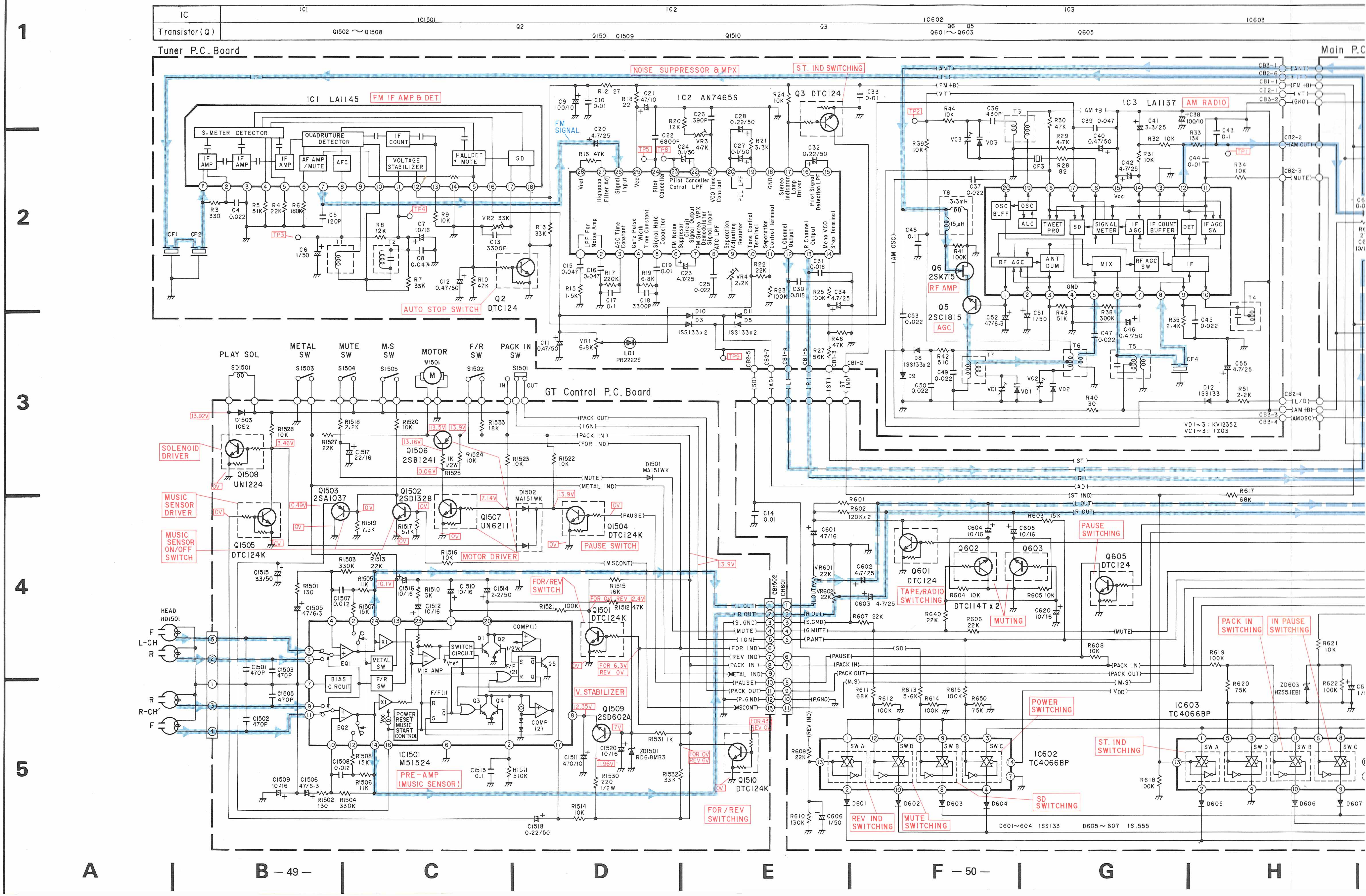
[Measuring Conditions]
- Power Supply : DC14.4V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Condition : No Signal input

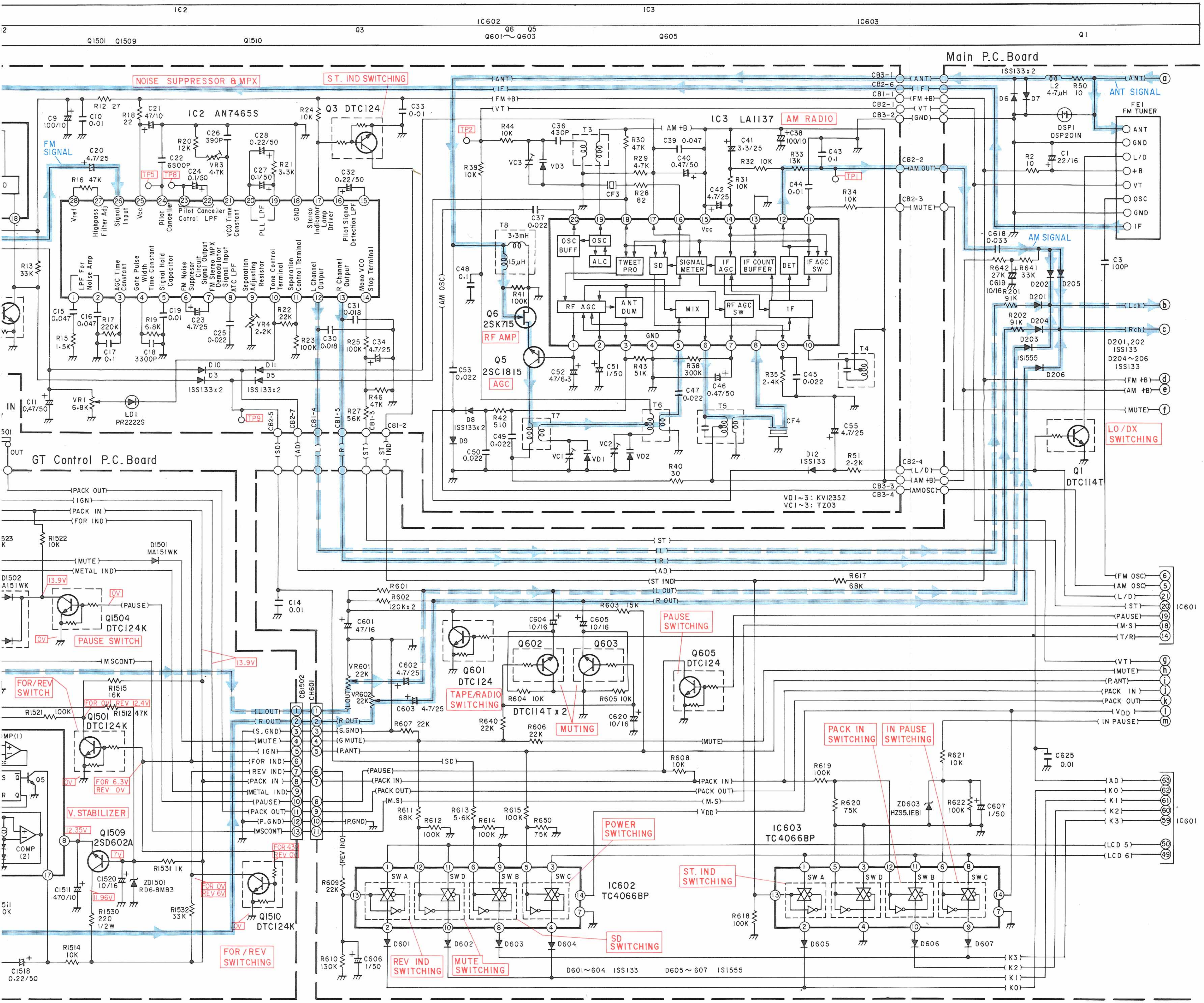
※ Values with * indicate voltage in VCC14V PLAY mode (measured with multimeter).
When replacing varactor diode VD1 always use one with the same rank.

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1{,}000{,}000}$

Schematic Diagram (1/2) ● 7280ES Model Only


IC
Transistor (Q)
IC1
IC1501
Q1502 ～ Q1508
Q2
IC2
Q1501 Q1509
Q1510
Q3
IC602
Q6 Q5
Q601 ～ Q603
IC3
Q605
IC603
Tuner P.C. Board
Main P.C
GT Control P.C. Board
IC1 LA1145
FM IF AMP & DET
NOISE SUPPRESSOR & MPX
IC2 AN7465S
ST. IND SWITCHING
Q3 DTC124
IC3 LA1137
AM RADIO
FM SIGNAL
S.METER DETECTOR
QUADRUTURE DETECTOR
IF COUNT
IF AMP
AF AMP /MUTE
AFC
VOLTAGE STABILIZER
HALLDET • MUTE
SD
AUTO STOP SWITCH
Q2 DTC124
Q6 2SK715
RF AMP
Q5 2SC1815
AGC
OSC BUFF
OSC
ALC
TWEET PRO
SIGNAL METER
IF AGC
IF COUNT BUFFER
DET
IF AGC SW
RF AGC
ANT DUM
MIX
RF AGC SW
IF
LD1 PR2222S
PLAY SOL
METAL SW
MUTE SW
M.S SW
MOTOR
F/R SW
PACK IN SW
SD1501
S1503
S1504
S1505
M1501
S1502
S1501
SOLENOID DRIVER
Q1508 UN1224
MUSIC SENSOR DRIVER
MUSIC SENSOR ON/OFF SWITCH
Q1505 DTC124K
Q1503 2SA1037
Q1502 2SD1328
Q1506 2SB1241
Q1507 UN6211
MOTOR DRIVER
Q1504 DTC124K
PAUSE SWITCH
FOR/REV SWITCH
Q1501 DTC124K
V. STABILIZER
Q1509 2SD602A
Q1510 DTC124K
FOR/REV SWITCHING
IC1501 M51524
PRE-AMP (MUSIC SENSOR)
HEAD HD1501
L-CH
R-CH
EQ1
EQ2
METAL SW
BIAS CIRCUIT
F/R SW
MIX AMP
SWITCH CIRCUIT
COMP(1)
COMP(2)
POWER RESET MUSIC START CONTROL
Q601 DTC124
TAPE/RADIO SWITCHING
Q602
Q603
DTC114T x 2
MUTING
PAUSE SWITCHING
Q605 DTC124
PACK IN SWITCHING
IN PAUSE SWITCHING
POWER SWITCHING
ST. IND SWITCHING
IC602 TC4066BP
IC603 TC4066BP
REV IND SWITCHING
MUTE SWITCHING
SD SWITCHING
D601～604 1SS133
D605～607 1S1555
VD1～3: KV1235Z
VC1～3: TZ03
1
2
3
4
5
A
B
C
D
E
F
G
H


IC2
IC3
IC602
IC603
Q3
Q6 Q5
Q601～Q603
Q605
Q1
Q1501 Q1509
Q1510
NOISE SUPPRESSOR & MPX
ST. IND SWITCHING
IC2 AN7465S
IC3 LA1137
AM RADIO
Main P.C. Board
GT Control P.C. Board
FM SIGNAL
ANT SIGNAL
AM SIGNAL
FE1 FM TUNER
DSP1 DSP20IN
Q3 DTC124
Q6 2SK715
RF AMP
Q5 2SC1815
AGC
Q1 DTC114T
LO/DX SWITCHING
Q601 DTC124
TAPE/RADIO SWITCHING
Q602
Q603
DTC114T x 2
MUTING
Q605 DTC124
PAUSE SWITCHING
PACK IN SWITCHING
IN PAUSE SWITCHING
POWER SWITCHING
ST. IND SWITCHING
SD SWITCHING
REV IND SWITCHING
MUTE SWITCHING
IC602 TC4066BP
IC603 TC4066BP
IC601
Q1504 DTC124K
PAUSE SWITCH
Q1501 DTC124K
FOR/REV SWITCH
Q1509 2SD602A
V. STABILIZER
Q1510 DTC124K
FOR/REV SWITCHING
LD1 PR2222S
VD1～3: KV1235Z
VC1～3: TZ03
D201,202 1SS133
D204～206 1SS133
D601～604 1SS133
D605～607 1S1555
ZD603 HZS5.1EB1
ZD1501 RD6.8MB3

	E	C	B	MODE
Q1	0V/0V	0V/7.3V	4.3V/0V	L/D
Q2	0V	5.4V	0V	S/D
Q3	0V	0V/0.6V	0V/4.2V	ST IND OFF/ON
Q5	1.8V	8.7V	2.4V	
Q601	0V	0V	4.3V	T/R
Q602	0V	0V	12V/0V	MUTE
Q603	0V	0V	12V/0V	MUTE
Q605	0V	0V	4.5V	PAUSE

IC1

1	2.8V	10	4.9V
2	2.8V	11	4.9V
3	0V	12	7.8V
4	4V	13	0V
5	4V	14	0V
6	1.9V	15	0V
7	5V	16	4.1V
8	5V	17	3.9V
9	5V	18	0V

Q6

G	0V
D	1.8V
S	0V

IC2

1	2.4V	15	2.4V
2	1.8V	16	2.4V
3	1.2V	17	6.1V
4	0V	18	0V
5	2.5V	19	2.4V
6	1.3V	20	2.4V
7	1.2V	21	1.3V
8	1.8V	22	2.4V
9	0V	23	2.4V
10	2.2V	24	2.4V
11	1.8V	25	8.2V
12	3V	26	2.4V
13	3V	27	2.4V
14	2.5V/0V	28	2.4V

IC602

	ON	OFF
1	PS	
2	PS	0V
3	PS	
4	PS	0V
5	5.6V	0V
6	5.2V	0V
7	0V	0V
8	PS	0V
9	PS	
10	PS	0V
11	PS	
12	5.6V	0V
13	5.5V	0V
14	5.6V	

IC3

1	1V	11	0V
2	1.5V	12	5.1V
3	3.5V	13	0V
4	0V	14	5.2V
5	2V	15	8.9V
6	8.9V	16	3.3V
7	6.2V	17	4.4V
8	1.5V	18	5.7V
9	1V	19	8.9V
10	8.9V	20	5.6V

IC603

	ON	OFF
1	PS	
2	PS	0V
3	—	—
4	—	—
5	—	—
6	5.6V	0V
7	0V	0V
8	PS	
9	PS	0V
10	PS	0V
11	PS	
12	5.6V	0V
13	5V	0V
14	5.6V	

IC1501

1	0V	FOR	13	0V ＊	NORMAL
	5.97V	REV		6.22V ＊	METAL
2	2.85V ＊		14		
3	2.76V ＊		15	—	
4	2.76V ＊		16	0.49V ＊	
5	2.76V ＊		17		
6	0V ＊		18	—	
7	2.76V ＊		19	—	
8	12.35V ＊		20		
9	2.76V ＊		21		
10	2.76V ＊		22	—	
11	2.76V ＊		23	2.16V ＊	
12	2.83V ＊		24		

※ Values with ＊ indicate voltage in VCC14V PLAY mode (measured with multimeter).

[Measuring Conditions]
- Power Supply : DC14.4V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Condition : No signal Input
  AM 1000KHz
  FM 98.1MHz

※ When replacing varactor diodes VD1 ～ VD3 always use one with the same rank.

NOTES:

1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. $P = \frac{1}{1,000,000}$

Schematic Diagram (2/2) ● 7280ES Model Only

IC: IC201, IC601, IC202, IC203, IC204

Transistor (Q): Q201 Q606, Q607, Q202, Q608, Q204〜Q207, Q610, Q803〜Q808, Q802, Q208 Q209, Q613, Q612 Q611, Q809〜Q811, Q801

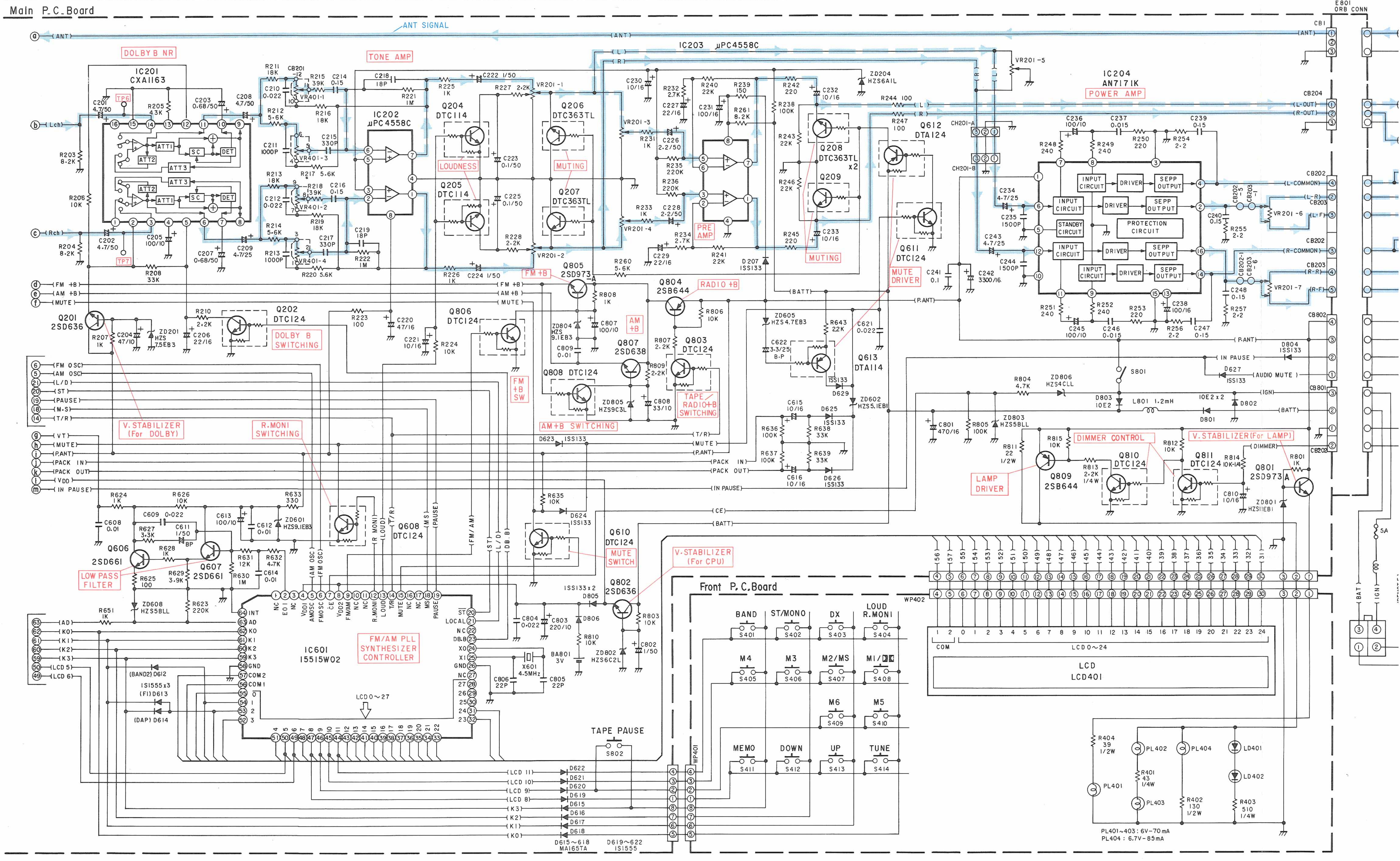
1

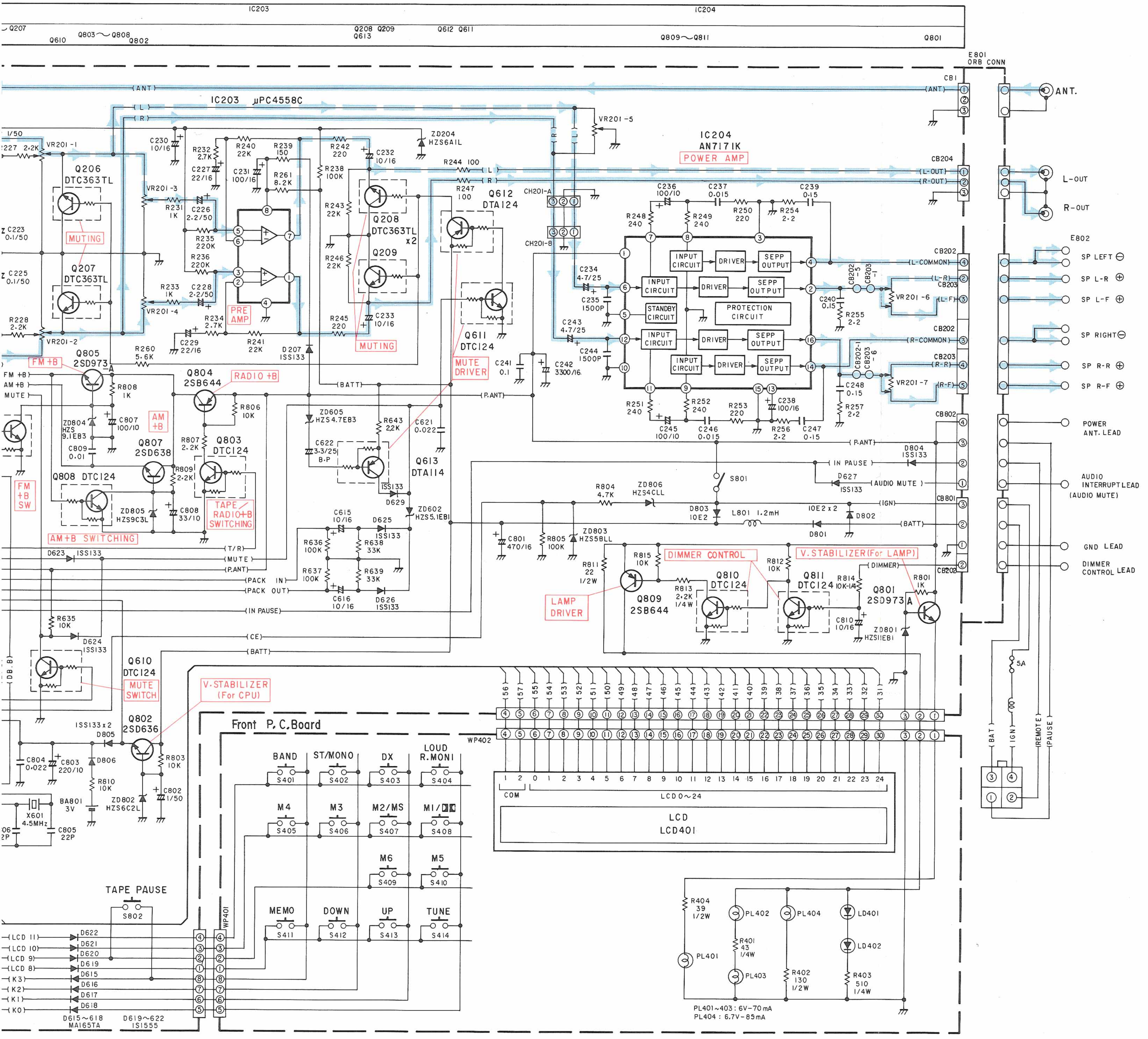
2

3

4

5


Main P.C.Board
ANT SIGNAL
ANT
Lch
Rch
DOLBY B NR
IC201
CXA1163
TP6
TP7
ATT1
ATT2
ATT3
SC
DET
TONE AMP
IC202
μPC4558C
Q204
DTC114
Q205
DTC114
LOUDNESS
Q206
DTC363TL
Q207
DTC363TL
MUTING
IC203 μPC4558C
PRE AMP
Q208
DTC363TL
x2
Q209
MUTING
Q612
DTA124
Q611
DTC124
MUTE DRIVER
IC204
AN7171K
POWER AMP
INPUT CIRCUIT
DRIVER
SEPP OUTPUT
STANDBY CIRCUIT
PROTECTION CIRCUIT
CB201
CB202
CB203
CB204
CB801
CB802
E801
ORB CONN
CB1
VR201-1
VR201-2
VR201-3
VR201-4
VR201-5
VR201-6
VR201-7
L-OUT
R-OUT
L-COMMON
R-COMMON
L-F
L-R
R-R
R-F
CH201-A
CH201-B
FM +B
AM +B
MUTE
Q201
2SD636
V.STABILIZER (For DOLBY)
Q202
DTC124
DOLBY B SWITCHING
Q806
DTC124
FM +B SW
Q805
2SD973
FM +B
Q804
2SB644
RADIO +B
AM +B
Q807
2SD638
Q803
DTC124
Q808 DTC124
AM+B SWITCHING
TAPE/RADIO+B SWITCHING
Q613
DTA114
FM OSC
AM OSC
L/D
ST
PAUSE
M.S
T/R
VT
P.ANT
PACK IN
PACK OUT
VDD
IN PAUSE
BATT
IGN
AUDIO MUTE
DIMMER
CE
R.MONI SWITCHING
Q606
2SD661
Q607
2SD661
LOW PASS FILTER
Q608
DTC124
Q610
DTC124
MUTE SWITCH
Q802
2SD636
V.STABILIZER (For CPU)
IC601
15515W02
FM/AM PLL SYNTHESIZER CONTROLLER
LCD 0〜27
X601
4.5MHz
BA801
3V
S801
L801 1.2mH
DIMMER CONTROL
V.STABILIZER (For LAMP)
Q809
2SB644
LAMP DRIVER
Q810
DTC124
Q811
DTC124
Q801
2SD973
5A
BAT
IGN
Front P.C.Board
WP401
WP402
BAND
S401
ST/MONO
S402
DX
S403
LOUD R.MONI
S404
M4
S405
M3
S406
M2/MS
S407
M1/
S408
M6
S409
M5
S410
MEMO
S411
DOWN
S412
UP
S413
TUNE
S414
TAPE PAUSE
S802
COM
LCD 0〜24
LCD
LCD401
PL401
PL402
PL403
PL404
LD401
LD402
PL401〜403 : 6V-70mA
PL404 : 6.7V-85mA
D615〜618 MA165TA
D619〜622 1S1555
LCD 11
LCD 10
LCD 9
LCD 8
K3
K2
K1
K0
LCD 5
LCD 6
AD
(BAND2) D612
1S1555x3
(FI) D613
(DAP) D614


IC203
IC204
Q207
Q610
Q803〜Q808
Q802
Q208 Q209
Q613
Q612 Q611
Q809〜Q811
Q801
E801
ORB CONN
CB1
ANT.
IC203 μPC4558C
VR201-5
ZD204 HZS6AIL
IC204
AN7171K
POWER AMP
CB204
L-OUT
R-OUT
Q206
DTC363TL
MUTING
Q207
DTC363TL
PRE AMP
Q208
DTC363TL
x2
Q209
Q612
DTA124
CH201-A
CH201-B
INPUT CIRCUIT
DRIVER
SEPP OUTPUT
STANDBY CIRCUIT
PROTECTION CIRCUIT
E802
SP LEFT ⊖
SP L-R ⊕
SP L-F ⊕
SP RIGHT ⊖
SP R-R ⊕
SP R-F ⊕
CB202
CB203
VR201-6
VR201-7
CB802
POWER ANT. LEAD
AUDIO INTERRUPT LEAD (AUDIO MUTE)
GND LEAD
DIMMER CONTROL LEAD
CB801
Q611
DTC124
MUTE DRIVER
Q805
2SD973
FM +B
Q804
2SB644
RADIO +B
AM +B
Q807
2SD638
Q803
DTC124
Q808 DTC124
FM +B SW
TAPE/RADIO+B SWITCHING
AM+B SWITCHING
Q613
DTA114
S801
L801 1.2mH
DIMMER CONTROL
V.STABILIZER(For LAMP)
Q810
DTC124
Q811
DTC124
Q801
2SD973
LAMP DRIVER
Q809
2SB644
Q610
DTC124
MUTE SWITCH
V-STABILIZER (For CPU)
Q802
2SD636
Front P.C.Board
WP402
WP401
BAND S401
ST/MONO S402
DX S403
LOUD R.MONI S404
M4 S405
M3 S406
M2/MS S407
M1/D S408
M6 S409
M5 S410
MEMO S411
DOWN S412
UP S413
TUNE S414
TAPE PAUSE S802
LCD
LCD401
COM
LCD0〜24
X601 4.5MHz
PL401
PL402
PL403
PL404
LD401
LD402
PL401〜403 : 6V-70mA
PL404 : 6.7V-85mA
BAT
IGN
REMOTE
PAUSE
5A

	E	C	B	MODE
Q201	6.7V	13.8V	7.4V	
Q202	0V	6.7V	0V	
Q204	0V	0V	3.2V	LOUD
Q205	0V	0V	3.2V	LOUD
Q206	0V	0V	0.7V/0V	MUTE
Q207	0V	0V	0.7V/0V	MUTE
Q208	0V	0V	0.7V/0V	MUTE
Q209	0V	0V	0.7V/0V	MUTE
Q606	0V	3.7V	0.6V	
Q607	0.6V	9.2V	1.1V	
Q608	0V	0V	4.4V/0V	R MONI
Q610	0V	0V	4.3V	MUTE
Q611	0V	13.3V	0V	
Q612	13.3V	0V	13.3V	
Q613	13.3V	0V	13.3V	
Q801	9.8V	13.8V	10.4V	
Q802	5.1V	13.3V	5.8V	
Q803	0V	0V	4.3V	T/R
Q804	13.8V	13.5V	12.9V	
Q805	8.5V	13.5V	9.1V	FM
Q806	0V	9.1V	0V	FM
Q807	0V	13.5V	9.7V	AM
Q808	0V	9.7V	0V	AM
Q809	14V	11.3V	14V	DIMMER
Q810	0V	14V	0V	DIMMER
Q811	0V	0V	9.79V	DIMMER

IC201

1	3.4V	9	3.5V
2	13.8V	10	0V
3	3.4V	11	3.5V
4	3.4V	12	6.7V
5	6.7V	13	1.2V
6	3.4V	14	3.4V
7	0V	15	0V
8	3.4V	16	3.4V

IC202

1	6.7V
2	6.7V
3	6.7V
4	0V
5	6.7V
6	6.7V
7	6.7V
8	13.5V

IC203

1	6.7V
2	6.7V
3	6.7V
4	0V
5	6.7V
6	6.7V
7	6.7V
8	12.7V

IC204

1	13.8V	9	1.3V
2	6.7V	10	0V
3	0V	11	1.2V
4	6.7V	12	0V
5	0V	13	13.5V
6	0V	14	6.7V
7	1.2V	15	0V
8	1.3V	16	6.7V

IC601

		MODE			MODE
1	—		33	PS	
2	1.3V		34	PS	
3	—		35	PS	
4	4.8V	LO	36	PS	
5	2.4V	AM OSC	37	PS	
6	2.1V	FM OSC	38	PS	
7	4.8V		39	PS	
8	4.8V	VDD	40	PS	
9	0V/4.9V	FM/AM	41	PS	
10	—		42	PS	
11	—		43	PS	
12	0V/4.8V	R. MONI	44	PS	
13	4.8V/0V	LOUD	45	PS	
14	0V/4.8V	T/R	46	PS	
15	4.7V	MUTE	47	PS	
16	—		48	PS	
17	—		49	PS	
18	0V	MS	50	PS	
19	4.8V/0V	PAUSE	51	PS	
20	0V	ST/MONO	52	PS	
21	0V	L/D	53	PS	
22	—		54	PS	
23	0V	DB	55	PS	
24	2.7V		56	PS	
25	2.5V		57	PS	
26	0V	GND	58	0V	GND
27	—		59	PS	
28	—		60	PS	
29	—		61	PS	
30	—		62	PS	
31	PS		63		ON/OFF
32	PS		64	0V	

[Measuring Conditions]
- Power Supply : DC14.4V
- Measuring Meter : Digital Multi Voltmeter
- Measuring Point Reference : Between Ground
- Measuring Condition : No signal Input

NOTES:
1. All resistance values are in ohms. K = 1,000
2. All capacitance values are in microfarads. P = $\frac{1}{1,000,000}$

Electrical Parts List

Resistor : Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.
uF=microfarads, pF=picofarads

Abbreviations

RES.=Resistor
C.F.=Carbon Film
M.F.=Metal Film
M.O.=Metal Oxide Film
M.P.=Metal Plate
TR.=Transistor
TRANS.=Transformer
CP.=Chip
CAP.=Capacitor
ELY.=Electrolytic
CER.=Ceramic
MYL.=Mylar
TAN.=Tantalum
POLY.=Polystyrol
PP.=Polypropylene
PLT.=Polyethylene

Symbol No.	Part No.	Description		
▲	Tuner P. C. Board (For 7280ES model only)			
IC's				
IC1	51T94495F01	LA1145		
IC2	51T94316F01	AN7465S		
IC3	51T94547F01	LA1137		
Transistors				
Q2	48T62963F03	DTC124		
Q3	48T62963F03	DTC124		
Q5	48S43525F02	2SC1815		
Q6	48T95129F01	FET, 2SK715		
Diodes/LED				
D3	48T68828F01	1SS133		
D5	48T68828F01	1SS133		
D8	48T68829F01	1SS133		
D9	48T68829F01	1SS133		
D10	48T68828F01	1SS133		
D11	48T68828F01	1SS133		
D12	48T68828F01	1SS133		
VD1	48T80759F02	Varactor, KV1235Z		
VD2	48T80759F02	Varactor, KV1235Z		
VD3	48T80759F02	Varactor, KV1235Z		
LD1	48T50930F02	LED, PR2222S (RED)		
Coils				
T1	24T58377F01	Inductor FM (WHT)		
T2	24T58377F02	FM 7KL (BLU)		
T3	24T95072F05	AM OSC (RED)		
T4	24T95072F04	IFT-2 (BLK)		
T5	24T95072F03	IFT-1 (YEL)		
T6	24T95072F02	AM RF (GRN)		
T7	24T95072F01	AM ANT (WHT)		
T8	24T95232F01	Inductor (BLK)		
Filters				
CF1	91T83724F01	CER., 10.7MS		
CF2	91T83724F01	CER., 10.7MS		
CF3	91T60378F01	CER., BFU450C		
CF4	91T56243F01	CER., 450H		
Capacitors				
C4	08S65480F62	CER., 0.022 μ F		
C5	08S65480F38	CER., 120pF		
C6	23S43247F05	ELY., 1 μ F/50V		
C7	23S43247F09	ELY., 10 μ F/16V		
C8	08T44979P12	CER., 0.047 μ F		
C9	23S43247F21	ELY., 100 μ F/10V		
C10	08S65480F61	CER., 0.01 μ F		
C11	23S43247F04	ELY., 0.47 μ F/50V		
C12	23S43247F04	ELY., 0.47 μ F/50V		
C13	08S65480F55	CER., 3300pF		
C15	08T44979P12	CER., 0.047 μ F		
C16	08T44979P12	CER., 0.047 μ F		
C17	08S65480F63	CER., 0.1 μ F		
C18	08S65480F55	CER., 3300pF		
C19	08S65480F61	CER., 0.01 μ F		
C20	23S43247F08	ELY., 4.7 μ F/25V		
C21	23S43247F13	ELY., 47 μ F/10V		
C22	08S65480F59	CER., 6800pF		
C23	23S43247F08	ELY., 4.7 μ F/25V		
C24	23S43247F01	ELY., 0.1 μ F/50V		
C25	08S65480F62	CER., 0.022 μ F		
C26	08T44481F03	PP., 390pF		
C27	23S43247F01	ELY., 0.1 μ F/50V		
C28	23S43247F02	ELY., 0.22 μ F/50V		
C29	23S43247F03	ELY., 0.33 μ F/50V		
C30	08T42629F70	MYL., 0.018 μ F		
C31	08T42629F70	MYL., 0.018 μ F		
C32	23S43247F02	ELY., 0.22 μ F/50V		
C33	08S65480F61	CER., 0.01 μ F		
C34	23S43247F08	ELY., 4.7 μ F/25V		
C36	08T44481F04	PP., 430pF		
C37	08S65480F62	CER., 0.022 μ F		
C38	23S43247F21	ELY., 100 μ F/10V		
C39	08T44979P12	CER., 0.047 μ F		
C40	23S43247F04	ELY., 0.47 μ F/50V		

Notes : ▲ : Tuner P. C. Board for 7280ES model only.
When replacing varactor diodes VD1~VD3 always use one with same rank.

Symbol No.	Part No.	Description		
C41	23S43247F07	ELY., 3.3 μF/25V		
C42	23S43247F08	ELY., 4.7 μF/25V		
C43	08T50579F13	T.F., 0.1 μF		
C44	08S65480F61	CER., 0.01 μF		
C45	08S65480F62	CER., 0.022 μF		
C46	23S43247F04	ELY., 0.47 μF/50V		
C47	08S65480F62	CER., 0.022 μF		
C48	08S65480F63	CER., 0.1 μF		
C49	21C45322G32	CER., 0.022 μF		
C50	08S65480F62	CER., 0.022 μF		
C51	23S43247F05	ELY., 1 μF/50V		
C52	23S43247F17	ELY., 47 μF/6.3V		
C53	21C45322G32	CER., 0.022 μF		
C55	23S43247F08	ELY., 4.7 μF/25V		
VC1	20T47503F02	Trimmer, TZ03 (RED)		
VC2	20T47503F02	Trimmer, TZ03 (RED)		
VC3	20T47503F02	Trimmer, TZ03 (RED)		
Resistors				
VR1	18T42748F12	Volume, Solid, 6.8k ohm		
VR2	18T42748F16	Variable, 33k ohmB		
VR3	18T42748F11	Variable, 4.7k ohmB		
VR4	18T42748F09	Variable, 2.2k ohm		
▲	Main P. C. Board (For 7280ES model only)			
IC's				
IC201	51T84635F01	CXA1163		
IC202	51S43471U02	μPC4558C		
IC203	51S43471U02	μPC4558C		
IC204	51T82314F01	AN7171K		
IC601	51T15515W02	15515W02		
IC602	51T47739F01	TC4066BP		
IC603	51T47739F01	TC4066BP		
Transistors				
Q1	48T62963F10	DTC114T		
Q201	48S40627U01	2SD636		
Q202	48T62963F03	DTC124		
Q204	48T62963F02	DTC114		
Q205	48T62963F02	DTC114		
Q206	48T82763F31	DTC363TL		
Q207	48T82763F31	DTC363TL		
Q208	48T82763F31	DTC363TL		
Q209	48T82763F31	DTC363TL		
Q601	48T62963F03	DTC124		
Q602	48T62963F10	DTC114T		
Q603	48T62963F10	DTC114T		
Q605	48T62963F03	DTC124		
Q606	48T42182U01	2SD661		
Q607	48T42182U01	2SD661		
Q608	48T62963F03	DTC124		
Q610	48T62963F03	DTC124		
Q611	48T62963F03	DTC124		
Q612	48T62962F03	DTA124		
Q613	48T62962F02	DTA114		
Q801	48T52549F01	2SD973A		
Q802	48S40627U01	2SD636		
Q803	48T62963F03	DTC124		
Q804	48T47866F01	2SB644		
Q805	48T52549F01	2SD973A		
Q806	48T62963F03	DTC124		
Q807	48S42455F01	2SD638		
Q808	48T62963F03	DTC124		
Q809	48T47866F01	2SB644		
Q810	48T62963F03	DTC124		
Q811	48T62963F03	DTC124		
Diodes				
D6	48T68828F01	1SS133		
D7	48T68828F01	1SS133		
D201	48T68828F01	1SS133		
D202	48T68828F01	1SS133		
D203	48T43189F01	1S1555		
D204	48T68828F01	1SS133		
D205	48T68828F01	1SS133		
D206	48T68828F01	1SS133		
D207	48T68828F01	1SS133		
D601	48T68828F01	1SS133		
D602	48T68828F01	1SS133		
D603	48T68828F01	1SS133		
D604	48T68828F01	1SS133		
D605	48T43189F01	1S1555		
D606	48T43189F01	1S1555		
D607	48T43189F01	1S1555		
D612	48T43189F01	1S1555		
D613	48T43189F01	1S1555		
D614	48T43189F01	1S1555		
D615	48T68828F01	1SS133		
D616	48T68828F01	1SS133		
D617	48T68828F01	1SS133		
D618	48T68828F01	1SS133		
D619	48T43189F01	1S1555		
D620	48T43189F01	1S1555		

Note : ▲ : Tuner P. C. Board and Main P. C. Board for 7280ES model only.

Symbol No.	Part No.	Description		
D621	48T43189F01	1S1555		
D622	48T43189F01	1S1555		
D623	48T68829F01	1SS133		
D624	48T68828F01	1SS133		
D625	48T68828F01	1SS133		
D626	48T68828F01	1SS133		
D627	48T68828F01	1SS133		
D629	48T68828F01	1SS133		
D801	48C40235G02	10E2		
D802	48C40235G02	10E2		
D803	48C40235G02	10E2		
D804	48T68828F01	1SS133		
D805	48T68828F01	1SS133		
D806	48T68828F01	1SS133		
ZD201	48T68697F31	Zener, HZS7.5EB3		
ZD204	48T83128F01	Zener, HZS6A1L		
ZD601	48T68697F37	Zener, HZS9.1EB3		
ZD602	48T68697F17	Zener, HZS5.1EB1		
ZD603	48T68697F17	Zener, HZS5.1EB1		
ZD605	48T68697F16	Zener, HZS4.7EB3		
ZD608	48T91071F11	Zener, HZS5BLL		
ZD801	48T68697F42	Zener, HZS11EB1		
ZD802	48T83128F08	Zener, HZS6C2L		
ZD803	48T91071F11	Zener, HZS5BLL		
ZD804	48T68697F37	Zener, HZS9.1EB3		
ZD805	48T83128F27	Zener, HZS9C3L		
ZD806	48T91071F09	Zener, HZS4CLL		
DSP1	48T81909F01	Surge Protector, DSP-201M		
Coils/Crystal				
L2	24T70381F17	Inductor, 4.7 μH		
L801	24T58149F02	Inductor, 1.2mH		
X601	48T55073F01	Crystal, 4.5MHz		
Capacitors				
C1	23S43247F10	ELY., 22 μ F/16V		
C3	08S65480F37	CER., 100pF		
C14	08S65480F61	CER., 0.01 μ F		
C201	23T68328F55	ELY., 4.7 μ F/50V		
C202	23T68328F55	ELY., 4.7 μ F/50V		
C203	23S43247F24	ELY., 0.68 μ F/50V		
C204	23T68328F02	ELY., 47 μ F/10V		
C205	23T68328F03	ELY., 100 μ F/10V		
C206	23T68328F13	ELY., 22 μ F/16V		
C207	23S43247F24	ELY., 0.68 μ F/50V		
C208	23S43247F08	ELY., 4.7 μ F/25V		
C209	23S43247F08	ELY., 4.7 μ F/25V		
C210	08T42629F71	MYL., 0.022 μ F		
C211	08S65480F49	CER., 1000pF		
C212	08T42629F71	MYL., 0.022 μ F		
C213	08S65480F49	CER., 1000pF		
C214	08T90316F31	T.F., 0.15 μ F		
C215	08S65480F43	CER., 330pF		
C216	08T90316F31	T.F., 0.15 μ F		
C217	08S65480F43	CER., 330pF		
C218	08S65480F19	CER., 18pF		
C219	08S65480F19	CER., 18pF		
C220	23T68328F15	ELY., 47 μ F/16V		
C221	23S43247F09	ELY., 10 μ F/16V		
C222	23S43247F05	ELY., 1 μ F/50V		
C223	23S43247F01	ELY., 0.1 μ F/50V		
C224	23S43247F05	ELY., 1 μ F/50V		
C225	23S43247F01	ELY., 0.1 μ F/50V		
C226	23S43247F06	ELY., 2.2 μ F/50V		
C227	23S43247F10	ELY., 22 μ F/16V		
C228	23S43247F06	ELY., 2.2 μ F/50V		
C229	23S43247F10	ELY., 22 μ F/16V		
C230	23S43247F09	ELY., 10 μ F/16V		
C231	23T73861F09	ELY., 100 μ F/16V		
C232	23S43247F09	ELY., 10 μ F/16V		
C233	23S43247F09	ELY., 10 μ F/16V		
C234	23S43247F08	ELY., 4.7 μ F/25V		
C235	08T42629F57	MYL., 1500pF		
C236	23T68328F03	ELY., 100 μ F/10V		
C237	08T42629F69	MYL., 0.015 μ F		
C238	23T68328F16	ELY., 100 μ F/16V		
C239	08T90316F31	T.F., 0.15 μ F		
C240	08T90316F31	T.F., 0.15 μ F		
C241	08T50579F13	T.F., 0.1 μ F		
C242	23T68328F22	ELY., 3300 μ F/16V		
C243	23S43247F08	ELY., 4.7 μ F/25V		
C244	08T42629F57	MYL., 1500pF		
C245	23T68328F03	ELY., 100 μ F/10V		
C246	08T42629F69	MYL., 0.015 μ F		
C247	08T90316F31	T.F., 0.15 μ F		
C248	08T90316F31	T.F., 0.15 μ F		
C601	23T68328F15	ELY., 47 μ F/16V		
C602	23S43247F08	ELY., 4.7 μ F/25V		
C603	23S43247F08	ELY., 4.7 μ F/25V		
C604	23S43247F09	ELY., 10 μ F/16V		
C605	23S43247F09	ELY., 10 μ F/16V		
C606	23T68328F52	ELY., 1 μ F/50V		
C607	23S43247F05	ELY., 1 μ F/50V		
C608	08S65480F61	CER., 0.01 μ F		
C609	08S65480F62	CER., 0.022 μ F		
C611	23T41366F40	ELY., (B.P.) 1 μ F/50V		
C612	08S65480F61	CER., 0.01 μ F		
C613	23T68328F03	ELY., 100 μ F/10V		
C614	08S65480F61	CER., 0.01 μ F		
C615	23S43247F09	ELY., 10 μ F/16V		

Note : ▲ : Main P. C. Board for 7280ES model only.

Symbol No.	Part No.	Description		
C616	23S43247F09	ELY., 10 μ F/16V		
C618	08T42629F73	MYL., 0.033 μ F		
C619	23S43247F09	ELY., 10 μ F/16V		
C620	23S43247F09	ELY., 10 μ F/16V		
C621	08S65480F62	CER., 0.022 μ F		
C622	23T82372F10	ELY., (B.P.) 3.3 μ F/25V		
C625	08S65480F61	CER., 0.01 μ F		
C801	23T68328F19	ELY., 470 μ F/16V		
C802	23T68328F52	ELY., 1 μ F/50V		
C803	23T68328F04	ELY., 220 μ F/10V		
C804	08S65480F62	CER., 0.022 μ F		
C805	08T55260F21	CER., 22pF		
C806	08T55260F21	CER., 22pF		
C807	23T68328F03	ELY., 100 μ F/10V		
C808	23T43247F11	ELY., 33 μ F/10V		
C809	08S65480F61	CER., 0.01 μ F		
C810	23S43247F09	ELY., 10 μ F/16V		
Resistors				
R811	06T67581F12	C.F., 22 ohm 1/2W		
VR203 S801 S802	18T16194W04	Volume, Control (20k) [S801 (POWER), S802 (TAPE PAUSE)]		
VR601	18T52946F15	Variable, 22k ohm		
VR602	18T52946F15	Variable, 22k ohm		
● Radio P. C. Board ■ (For 7280MS and 7280LS models only)				
IC's/Transistors				
IC1	51T94315F01	IC, μ PC1322CA		
IC2	51T94495F01	IC, LA1145		
IC3	51T94316F01	IC, AN7465S		
Q1	48T95129F03	FET, 2SK715V		
Q2	48S43525F03	2SC1815		
Q3	48T62963F03	DTC124		
Q4	48S40627U04	2SD636		
Diodes/Thermistor/LED				
D1	48T68828F01	1SS133		
D2	48T68828F01	1SS133		
D4	48T68828F01	1SS133		
D5	48T68829F01	1SS133		
D10	48T68828F01	1SS133		

Symbol No.	Part No.	Description		
D11	48T68828F01	1SS133		
LD1	48T51833F03	LED, BG4524K (GRN)		
VD1	48T96538F01	VRT, SVC203		
TH1	48T82780F02	Thermistor, 100k ohm		
Coils				
L2	24T51656F24	Inductor, 15 μ H		
L3	24T51656F18	Inductor, 4.7 μ H		
L4	24T94308F01	Inductor, 100 μ H		
L5	24T94309F01	Inductor, 2 μ H		
L6	24T51656F34	Inductor, 100 μ H		
L8	24T94496F01	OSC (RED)		
T1	24T94496F02	IFT−1 (BRN)		
T2	24T94496F03	IFT−2 (YEL)		
T3	24T94496F04	IFT−3 (BLK)		
T4	24T10069W01	FM IF		
T5	24T10069W02	FM		
Crystal/Filters				
X1	48T94314F02	Crystal, 10.26MHz		
CF3	91T94396F01	CER., Filter, 10.71MJ		
CF5	91T73118F02	CER., Filter SFP 450H12		
Capacitors				
C4	08S65480F61	CER., 0.01 μ F		
C5	08S65480F43	CER., 330pF		
C6	08T44979P12	CER., 0.047 μ F		
C7	08T44979P12	CER., 0.047 μ F		
C8	23S43247F06	ELY., 2.2 μ F/50V		
C9	08T44979P12	CER., 0.047 μ F		
C10	08S65480F31	CER., 56pF		
C11	08S65480F13	CER., 10pF		
C12	08T44979P12	CER., 0.047 μ F		
C13	08S65480F29	CER., 47pF		
C15	08S65480F37	CER., 100pF		
C16	08S65480F62	CER., 0.022 μ F		
C17	08S65480F62	CER., 0.022 μ F		
C18	08S65480F58	CER., 5600pF		
C19	23S43247F13	ELY., 47 μ F/10V		
C20	08T44979P10	CER., 0.022 μ F		
C21	23S43247F06	ELY., 2.2 μ F/50V		
C22	08S65480F61	CER., 0.01 μ F		
C23	08S65480F61	CER., 0.01 μ F		
C24	23S43247F10	ELY., 22 μ F/16V		

Notes : ▲ : Main P. C. Board for 7280ES model only, ● : Radio P. C. Board for 7280MS model only,
■ : Radio P. C. Board for 7280LS model only,
Others on Radio P. C. Board : For 7280MS and 7280LS both models common.
When replacing varactor diode VD1 always use one with same rank.

Symbol No.	Part No.	Description		
C25	08S65480F31	CER., 56pF		
C26	08S65480F61	CER., 0.01 μ F		
C27	23S43247F21	ELY., 100 μ F/10V		
C28	23S43247F06	ELY., 2.2 μ F/50V		
C29	23S43247F05	ELY., 1 μ F/50V		
C30	23S43247F09	ELY., 10 μ F/16V		
C31	08T44979P12	CER., 0.047 μ F		
C32	23S43247F21	ELY., 100 μ F/10V		
C33	08S65480F61	CER., 0.01 μ F		
C34	23S43247F04	ELY., 0.47 μ F/50V		
C35	08S65480F49	CER., 1000pF		
C36	08S65480F62	CER., 0.022 μ F		
C37	08S65480F38	CER., 120pF		
C39	23S43247F01	ELY., 0.1 μ F/50V		
C40	08S65480F62	CER., 0.022 μ F		
C41	08S65480F61	CER., 0.01 μ F		
C42	23S43247F08	ELY., 4.7 μ F/25V		
C43	23S43247F13	ELY., 47 μ F/10V		
C44	08S65480F58	CER., 5600pF		
C45	23S43247F01	ELY., 0.1 μ F/50V		
C46	08T44481F03	PP., 390pF		
C47	23S43247F02	ELY., 0.22 μ F/50V		
C48	23S43247F01	ELY., 0.1 μ F/50V		
C49	23S43247F02	ELY., 0.22 μ F/50V		
C50	08S65480F62	CER., 0.022 μ F		
C51	08S65480F62	CER., 0.022 μ F		
C52	08S65480F62	CER., 0.022 μ F		
C53	08S65480F62	CER., 0.022 μ F		
C54	23S43247F01	ELY., 0.1 μ F/50V		
C55	08S65480F55	CER., 3300pF		
C56	08S65480F61	CER., 0.01 μ F		
C57	23S43247F08	ELY., 4.7 μ F/25V		
C58	08T42629F68	MYL., 0.012 μ F		
C59	23S43247F03	ELY., 0.33 μ F/50V		
C60	08T42629F70	CER., 0.018 μ F		
C61	08T42629F70	CER., 0.018 μ F		
C63	23S43247F08	ELY., 4.7 μ F/25V		
C65	08T44979P11	CER., 0.033 μ F		
Resistors				
VR1	18T74439F22	Variable, 330k ohm		
VR2	18T74439F16	Variable, 33k ohm		
VR3	18T74439F13	Variable, 10k ohm		
VR4	18T74439F19	Variable, 100k ohm		
VR5	18T74439F09	Variable, 2.2k ohm		

	Symbol No.	Part No.	Description		
● ■	Main P. C. Board (For 7280MS and 7280LS models only)				
	IC's				
	IC201	51T84635F01	CXA1163		
	IC303	51T82314F01	AN7171K		
	IC601	51T15947W01	15947W01		
	IC602	51T47739F01	TC4066BP		
	IC603	51T47739F01	TC4066BP		
	Transistors				
	Q5	48T62540F05	UN1215		
	Q102	48T62963F03	DTC124		
	Q103	48T82763F30	DTC343TL		
	Q104	48T82763F30	DTC343TL		
	Q106	48T62963F03	DTC124		
	Q201	48S40627U04	2SD636		
	Q202	48T62963F03	DTC124		
	Q303	48T62963F02	DTC114		
	Q304	48T57337F01	2SD1330		
	Q305	48T62963F02	DTC114		
	Q306	48T57337F01	2SD1330		
●	Q307	48T57337F01	2SD1330		
●	Q308	48T57337F01	2SD1330		
	Q601	48T42182U01	2SD661		
	Q602	48T42182U01	2SD661		
	Q603	48T62963F03	DTC124		
●	Q604	48T62540F05	UN1215		
●	Q605	48T62963F03	DTC124		
	Q631	48T62962F02	DTA114		
	Q632	48T62962F03	DTA124		
	Q633	48T62963F03	DTC124		
	Q660	48T62540F05	UN1215		
■	Q661	48T62963F03	DTC124		
	Q662	48T62963F03	DTC124		
	Q663	48T62963F03	DTC124		
	Q644	48T47866F01	2SB644		
	Q801	48S40627U04	2SD636		
	Q802	48T52549F02	2SD973A		
	Q803	48T52549F02	2SD973A		
	Q804	48S42455F03	2SD638		
	Q805	48T62540F05	UN1215		
	Q806	48T62540F05	UN1215		
●	Q807	48S42455F03	2SD638		
	Diodes/Surge Protector				
	D8	48T68828F01	1SS133		
	D9	48T68828F01	1SS133		
	D80	48T68828F01	1SS133		
	D81	48T68828F01	1SS133		
	D82	48T68828F01	1SS133		

Notes : ● : For 7280MS model only, ■ : For 7280LS model only, Others : For both models common.

Symbol No.	Part No.	Description		
D83	48T68828F01	1SS133		
● D601	48T43189F01	1S1555		
■ D601	48T68828F01	1SS133		
● D602	48T43189F01	1S1555		
D603	48T68828F01	1SS133		
D604	48T68828F01	1SS133		
D605	48T68828F01	1SS133		
D606	48T68828F01	1SS133		
D607	48T68828F01	1SS133		
D608	48T68828F01	1SS133		
D609	48T68828F01	1SS133		
D610	48T68828F01	1SS133		
D611	48T68828F01	1SS133		
D612	48T68828F01	1SS133		
■ D613	48T68828F01	1SS133		
D614	48T68828F01	1SS133		
● D615	48T43189F01	1S1555		
■ D615	48T68828F01	1SS133		
● D616	48T43189F01	1S1555		
D617	48T68828F01	1SS133		
D618	48T68828F01	1SS133		
D619	48T68828F01	1SS133		
● D623	48T43189F01	1S1555		
■ D623	48T68828F01	1SS133		
D625	48T68828F01	1SS133		
D631	48T68828F01	1SS133		
D632	48T68828F01	1SS133		
D633	48T68828F01	1SS133		
■ D634	48T68828F01	1SS133		
■ D635	48T68828F01	1SS133		
D638	48T68828F01	1SS133		
D801	48C40235G02	10E2		
D803	48C40235G02	10E2		
D804	48C40235G02	10E2		
● D802	48T68828F01	1SS133		
D806	48T68828F01	1SS133		
ZD101	48T68697F17	Zener, HZS5.1EB1		
ZD201	48T68697F31	Zener, HZS7.5EB3		
ZD302	48T68697F26	Zener, HZS6.8EB1		
ZD601	48T68697F35	Zener, HZS9.1EB1		
ZD603	48T91071F11	Zener, HZS5BLL		
ZD631	48T68697F16	Zener, HZS4.7EB3		
ZD632	48T68697F17	Zener, HZS5.1EB1		
ZD801	48T52741F08	Zener, HZ6C−2L		
ZD802	48T91071F11	Zener, HZS5BLL		
ZD803	48T68697F42	Zener, HZS11EB1		
ZD804	48T68697F37	Zener, HZS9.1EB3		
ZD805	48T52741F25	Zener, HZS9C−1L		
● ZD806	48T68697F37	Zener, HZS9.1EB3		
ZD807	48T91071F09	Zener, HZS4CLL		

Symbol No.	Part No.	Description		
DSP1	48T81909F01	Surge Protector, DSP−201M		
Coils/Crystal/Filters				
L1	24T50508F02	Inductor, 0.22 µ H		
L10	24T50508F06	Inductor, 0.47 µ H		
L801	24T58149F02	Inductor, 1.2mH		
X601	48T55073F01	Crystal, 4.5MHz		
CF1	91T80084F01	CER., Filter, 1070MS10FAL		
CF2	91T80084F01	CER., Filter, 1070MS10FAL		
Capacitors				
C1	08S65480F25	CER., 33pF		
C2	08S65480F62	CER., 0.022 µ F		
C3	23T68328F03	ELY., 100 µ F/10V		
C64	23S43247F08	ELY., 4.7 µ F/25V		
C80	08S65480F61	CER., 0.01 µ F		
C81	08T50579F08	TF., 0.039 µ F		
C82	23S43247F01	ELY., 0.1 µ F/50V		
C83	23S57422F08	ELY., 4.7 µ F/25V		
C84	23S57422F08	ELY., 4.7 µ F/25V		
C85	23S43247F09	ELY., 10 µ F/16V		
C87	08S65480F37	CER., 100pF		
C102	23S43247F08	ELY., 4.7 µ F/25V		
C103	23S43247F08	ELY., 4.7 µ F/25V		
C104	23S43247F09	ELY., 10 µ F/16V		
C105	23S43247F09	ELY., 10 µ F/16V		
C106	23S43247F07	ELY., 3.3 µ F/25V		
C107	23S43247F05	ELY., 1 µ F/50V		
C108	23S43247F05	ELY., 1 µ F/50V		
C201	23S43247F08	ELY., 4.7 µ F/25V		
C202	23T68328F02	ELY., 47 µ F/10V		
C203	23S43247F08	ELY., 4.7 µ F/25V		
C204	23T68328F03	ELY., 100 µ F/10V		
C205	23S43247F10	ELY., 22 µ F/16V		
C206	23S43247F24	ELY., 0.68 µ F/50V		
C207	23S43247F24	ELY., 0.68 µ F/50V		
C320	23T68328F02	ELY., 47 µ F/10V		
● C321	08T57705F23	MYL., 0.033 µ F		
■ C321	23S41059P01	TAN., 0.1 µ F/35V		
● C322	08T57705F23	MYL., 0.033 µ F		
■ C322	23S41059P01	TAN., 0.1 µ F/35V		

Notes : ● : For 7280MS model only, ■ : For 7280LS model only, Others : For both models common.

Symbol No.	Part No.	Description		
● C323	23S43247F10	ELY., 22 μ F/16V		
■ C323	23S43247F11	ELY., 33 μ F/16V		
C353	08S65480F51	CER., 1500pF		
C354	08S65480F51	CER., 1500pF		
C355	23T68328F03	ELY., 100 μ F/10V		
C356	23T68328F03	ELY., 100 μ F/10V		
C357	08S65480F61	CER., 0.01 μ F		
C358	08S65480F61	CER., 0.01 μ F		
C359	08T50579F15	T.F., 0.15 μ F		
C360	08T50579F15	T.F., 0.15 μ F		
C361	08T50579F15	T.F., 0.15 μ F		
C362	08T50579F15	T.F., 0.15 μ F		
C363	23T68328F16	ELY., 100 μ F/16V		
C364	23C42170G37	ELY., 3300 μ F/16V		
C365	08S65480F63	CER., 0.1 μ F		
C601	08S65480F61	CER., 0.01 μ F		
C602	23T41366F41	ELY., (BP) 2.2 μ F/50V		
C603	23S43247F03	ELY., 0.33 μ F/50V		
C604	08S65480F61	CER., 0.01 μ F		
C605	23T68328F03	ELY., 100 μ F/10V		
C606	08S65480F61	CER., 0.01 μ F		
C607	23S43247F09	ELY., 10 μ F/16V		
C608	08S65480F21	CER., 22pF		
C609	08S65480F21	CER., 22pF		
● C617	23S43247F16	ELY., 22 μ F/6.3V		
● C618	23T68328F03	ELY., 100 μ F/10V		
C631	23T41366F42	ELY., (BP) 3.3 μ F/50V		
C632	23S43247F09	ELY., 10 μ F/16V		
C633	23S43247F09	ELY., 10 μ F/16V		
C635	23S43247F09	ELY., 10 μ F/16V		
C662	23S43247F09	ELY., 10 μ F/16V		
■ C670	23S43247F08	ELY., 4.7 μ F/25V		
C801	23C42170G30	ELY., 470 μ F/16V		
C802	23S43247F05	ELY., 1 μ F/50V		
C803	23S82482F01	ELY., 220 μ F/6.3V		
C805	23T68328F03	ELY., 100 μ F/10V		
C806	23T68328F03	ELY., 100 μ F/10V		
● C807	23T68328F02	ELY., 47 μ F/10V		
C808	08S65480F62	CER., 0.022 μ F		
Resistors				
VR101	18T81058F13	Variable, 10k ohm		
VR102	18T81058F13	Variable, 10k ohm		
● VR301	18T42748F08	Volume, 1.5k ohm		
● VR302 S801 S802	18T16194W03	Volume, Control (100K) S801 (POWER) S802 (TAPE PAUSE)		

Symbol No.	Part No.	Description		
■ VR302 S801 S802	18T16194W04	Volume, Control 20k ohm S801 (POWER) S802 (TAPE PAUSE)		
● ■ Tone P. C. Board (For 7280MS and 7280LS models only)				
IC/Transistors				
IC301	51S43471U02	IC, μ PC4558C		
Q301	48S40627U04	2SD636		
Q302	48S40627U04	2SD636		
Q311	48T57337F03	2SD1330		
Q312	48T57337F03	2SD1330		
Diodes				
D301	48T68828F01	1SS133		
D302	48T68828F01	1SS133		
ZD301	48T68697F20	Zener, HZS5.6EB1		
Capacitors				
C301	23T68970F22	ELY., 4.7 μ F/25V		
C302	23T68970F22	ELY., 4.7 μ F/25V		
C303	08T42629F66	MYL., 8200pF		
C304	08T42629F66	MYL., 8200pF		
C305	08T42629F74	MYL., 0.039 μ F		
C306	08T42629F74	MYL., 0.039 μ F		
C307	08T42629F74	MYL., 0.039 μ F		
C308	08T42629F74	MYL., 0.039 μ F		
C309	23S43247F02	ELY., 0.22 μ F/50V		
C310	23S43247F02	ELY., 0.22 μ F/50V		
C311	23S43247F08	ELY., 4.7 μ F/25V		
C312	23S43247F08	ELY., 4.7 μ F/25V		
C313	08S65480F41	CER., 220pF		
C314	08S65480F41	CER., 220pF		
C315	23S68328F19	ELY., 470 μ F/16V		
C316	23S43247F08	ELY., 4.7 μ F/25V		
C317	23S43247F08	ELY., 4.7 μ F/25V		
C318	23S43247F09	ELY., 10 μ F/16V		
C319	23S43247F09	ELY., 10 μ F/16V		
C324	23S43247F22	ELY., 100 μ F/16V		
C326	23S43247F06	ELY., 2.2 μ F/50V		
C327	23T43247F06	ELY., 2.2 μ F/50V		

Notes : ● : For 7280MS model only, ■ : For 7280LS model only, Others : For both models common.

Symbol No.	Part No.	Description		
● SDK P. C. Board (For 7280MS model only)				
IC's				
IC604	51T82523F01	TDA1579		
IC605	51T83062F01	NJM2902N		
IC606	51T47739F01	TC4066BP		
Transistors				
Q651	48S43525F03	2SC1815		
Q652	48T51118F02	2SA1015		
Q653	48S43525F03	2SC1815		
Q654	48S43525F03	2SC1815		
Q655	48S43525F03	2SC1815		
Q656	48S40591U01	2SB641		
Q657	48S43525F03	2SC1815		
Q658	48S40627U04	2SD636		
Q659	48S43525F03	2SC1815		
Diodes/Coil				
D651	48T68828F01	1SS133		
D652	48T68828F01	1SS133		
D653	48T68828F01	1SS133		
D654	48T68828F01	1SS133		
D655	48T68828F01	1SS133		
D656	48T68828F01	1SS133		
D657	48T68828F01	1SS133		
D658	48T68828F01	1SS133		
L601	24T84175F02	Coil, SK (57kHz)		
Capacitors				
C610	08T50579F13	TF., 0.1 μ F		
C611	08T50579F09	TF., 0.047 μ F		
C612	23S41198U26	ELY., 47 μ F/10V		
C613	08S65480F61	CER., 0.01 μ F		
C614	08T44979P12	CER., 0.047 μ F		
C615	08S65480F31	CER., 56pF		
C616	23S43247F11	ELY., 33 μ F/10V		
C651	08T50579F13	TF., 0.1 μ F		
C652	08T50579F13	TF., 0.1 μ F		
C653	23S43247F08	ELY., 4.7 μ F/25V		
C654	08T50579F11	TF., 0.068 μ F		
C655	08T50579F11	TF., 0.068 μ F		
C656	08T50579F11	TF., 0.068 μ F		
C657	08T50579F09	TF., 0.047 μ F		
C658	08T42629F73	MYL., 0.033 μ F		

Symbol No.	Part No.	Description		
C659	23S43247F01	ELY., 0.1 μ F/50V		
C660	08T44979P11	CER., 0.033 μ F		
C661	23S43247F09	ELY., 10 μ F/16V		
Resistor				
VR601	18T42748F02	Variable, 150 ohm		
■ Switch P. C. Board (For 7280LS model only)				
IC				
IC606	51T47739F01	TC4066BP		
Transistors				
Q657	48S43525F03	2SC1815		
Q658	48S40627U04	2SD636		
Diode				
ZD602	48T90517F41	Zener, HZS9.1NB1		
● ■ Front P. C. Board (For 7280MS and 7280LS models only)				
LED's				
LD401	48T51833F03	BG4524K (GRN)		
LD402	48T51833F03	BG4524K (GRN)		
Switches				
S401	40T70366F02	Tact, SKHLAC (BAND)		
S402	40T70366F02	Tact, SKHLAC (ST/MONO)		
S403	40T70366F02	Tact, SKHLAC (DX)		
● S404	40T70366F02	Tact, SKHLAC (LOUD/SDK)		
■ S404	40T70366F02	Tact, SKHLAC (LOUD/R, MONI)		

Notes : ● : SDK P. C. Board and Front P. C. Board for 7280MS model only,
■ : Switch P. C. Board and Front P. C. Board for 7280LS model only,
Others : For both models common.

Symbol No.	Part No.	Description		
S405	40T70366F02	Tact, SKHLAC (M4)		
S406	40T70366F02	Tact, SKHLAC (M3)		
S407	40T70366F02	Tact, SKHLAC (M2／MS)		
S408	40T70366F02	Tact, SKHLAC (M1／DOLBY)		
S409	40T70366F02	Tact, SKHLAC (M6)		
S410	40T70366F02	Tact, SKHLAC (M5)		
S411	40T70366F02	Tact, SKHLAC (MEMO)		
S412	40T70366F02	Tact, SKHLAC (DOWN)		
S413	40T70366F02	Tact, SKHLAC (UP)		
S414	40T70366F02	Tact, SKHLAC (SEEK)		
Lamps				
PL401	65T95083F01	6.7V−85mA		
PL402	65T95274F02	6V−70mA		
PL403	65T95274F02	6V−70mA		
PL404	65T95274F02	6V−70mA		
Resistors				
R402	06S81094F44	M.F., 130 ohm 1／2W		
R404	06T67581F15	C.F., 39 ohm 1／2W		
VR401	18T93886F02	Volume 20k ohm (Treble／Bass)		
▲ Front P. C. Board (For 7280ES model only)				
LED's				
LD401	48T51833F03	BG4524K (GRN)		
LD402	48T51833F03	BG4524K (GRN)		
Switches				
S401	40T70366F02	Tact, SKHLAC (BAND)		
S402	40T70366F02	Tact, SKHLAC (ST／MONO)		
S403	40T70366F02	Tact, SKHLAC (DX)		
S404	40T70366F02	Tact, SKHLAC (LOUD／R. MONI)		
S405	40T70366F02	Tact, SKHLAC (M4)		

Symbol No.	Part No.	Description		
S406	40T70366F02	Tact, SKHLAC (M3)		
S407	40T70366F02	Tact, SKHLAC (M2／MS)		
S408	40T70366F02	Tact, SKHLAC (M1／DOLBY)		
S409	40T70366F02	Tact, SKHLAC (M6)		
S410	40T70366F02	Tact, SKHLAC (M5)		
S411	40T70366F02	Tact, SKHLAC (MEMO)		
S412	40T70366F02	Tact, SKHLAC (DOWN)		
S413	40T70366F02	Tact, SKHLAC (UP)		
S414	40T70366F02	Tact, SKHLAC (SEEK)		
Lamps				
PL401	65T95274F02	6V−70mA		
PL402	65T95274F02	6V−70mA		
PL403	65T95274F02	6V−70mA		
PL404	65T95083F01	6.7V−85mA		
Resistors				
R402	06S81094F44	M.F., 130 ohm 1／2W		
R404	06T67581F15	C.F., 39 ohm 1／2W		
VR401	18T93886F01	Volume, 100k ohm B×2 (Treble／Bass)		
GT Control P. C. Board				
IC／Transistors				
IC1501	51T82136F02	IC, M51524		
Q1501	48T62967F03	CP., DTC124K		
Q1502	48T63788F01	CP., 2SD1328		
Q1503	48T63420F03	CP., 2SA1037K		
Q1504	48T62967F03	CP., DTC124K		
Q1505	48T62967F03	CP., DTC124K		
Q1506	48T83418F04	2SB1241		
Q1507	48T90639F02	UN6211		
Q1508	48T62540F11	UN1224		
Q1509	48T52439F11	CP., 2SD602A		
Q1510	48T62967F03	CP., DTC124K		

Notes ●: Front P. C. Board for 7280MS model only, ■: Front P. C. Board for 7280LS model only,
▲: Front P. C. Board for 7280ES model only, Others : Common.

Symbol No.	Part No.	Description		
Diodes				
D1501	48T52446F01	CP., MA151WK		
D1502	48T52446F01	CP., MA151WK		
D1503	48C40235G02	10E2		
ZD1501	48T62934F29	Zener, CP., RD6.8MB3		
Capacitors				
C1501	08S53332F31	CP., 470pF		
C1502	08S53332F31	CP., 470pF		
C1503	08S53332F31	CP., 470pF		
C1504	08S53332F31	CP., 470pF		
C1505	23S61523F07	ELY., 47 μ F/6.3V		
C1506	23S61524F07	ELY., 47 μ F/6.3V		
C1507	08S53332F48	CP., 0.012 μ F		
C1508	08S53332F48	CP., 0.012 μ F		
C1509	23S43247F09	ELY., 10 μ F/16V		
C1510	23S61524F13	ELY., 10 μ F/16V		
C1511	23C42170G32	ELY., 470 μ F/10V		
C1512	23S61524F13	ELY., 10 μ F/16V		
C1513	08S53332F57	CP., 0.1 μ F		
C1514	23S61523F30	ELY., 2.2 μ F/50V		
C1515	23S61523F31	ELY., 3.3 μ F/50V		
C1516	23S61524F13	ELY., 10 μ F/16V		
C1517	23S57007F11	ELY., 22 μ F/16V		
C1518	23T61512F22	ELY., 0.22 μ F/50V		
C1520	23S61524F13	ELY., 10 μ F/16V		
Resistors (All resistors are chip 1/8W±5% unless otherwise noted.)				
R1501	06S53330F32	130 ohm		
R1502	06S53330F32	130 ohm		
R1503	06S53331F14	330k ohm		
R1504	06S53331F14	330k ohm		
R1505	06S53330F78	11k ohm		
R1506	06S53330F78	11k ohm		
R1507	06S64995F81	15k ohm1/16W		
R1508	06S53330F81	15k ohm		
R1510	06S53330F64	3k ohm		
R1511	06S53331F19	510k ohm		
R1512	06S53330F93	47k ohm		
R1513	06S53330F85	22k ohm		
R1514	06S53330F77	10k ohm		
R1515	06S53330F82	16k ohm		
R1516	06S53330F77	10k ohm		
R1517	06S53330F70	5.1k ohm		
R1518	06S53330F61	2.2k ohm		
R1519	06S53330F74	7.5k ohm		
R1520	06S53330F77	10k ohm		
R1521	06S53331F02	100k ohm		
R1522	06S53330F77	10k ohm		
R1523	06S53330F77	10k ohm		
R1524	06S53330F77	10k ohm		
R1525	06T67581F32	C.F., 1k ohm 1/2W		
R1527	06S53330F85	22k ohm		
R1530	06T67581F24	C.F., 220 ohm 1/2W		
R1531	06S53330F53	1k ohm		
R1532	06S53330F89	33k ohm		
R1533	06S53330F83	18k ohm		
Miscellaneous				
BA801	60T91060F03	Battery, Lit CR2032		
● E801	01T94841F08	Assy., QRB Connector (Socket)		
▲ E801	01T95067F05	Assy., QRB Connector (Socket)		
■ E801	01T94841F09	Assy., QRB Connector (Socket)		
HD1501	88T16375W01	Head		
● LCD401	65T15899W01	LCD, Display		
■ LCD401	65T15899W01	LCD, Display		
▲ LCD401	65T15415W01	LCD, Display		
M1501	01V14500W41	Assy., Motor		
S1501	40T52216F01	Switch, Micro (PACK IN)		
S1502	40T15222W01	Switch, Detector (F/R)		
S1503	40T71025F03	Switch, Detector (Metal)		
S1504	40T15222W01	Switch, Detector (Mute)		
S1505	40T15222W01	Switch, Detector (M.S)		
SD1501	01T80451F01	Assy., Keep Solenoid (Play)		

Notes ● : For 7280MS model only, ■ : For 7280LS model only,
▲ : For 7280ES model only, Others : Common.

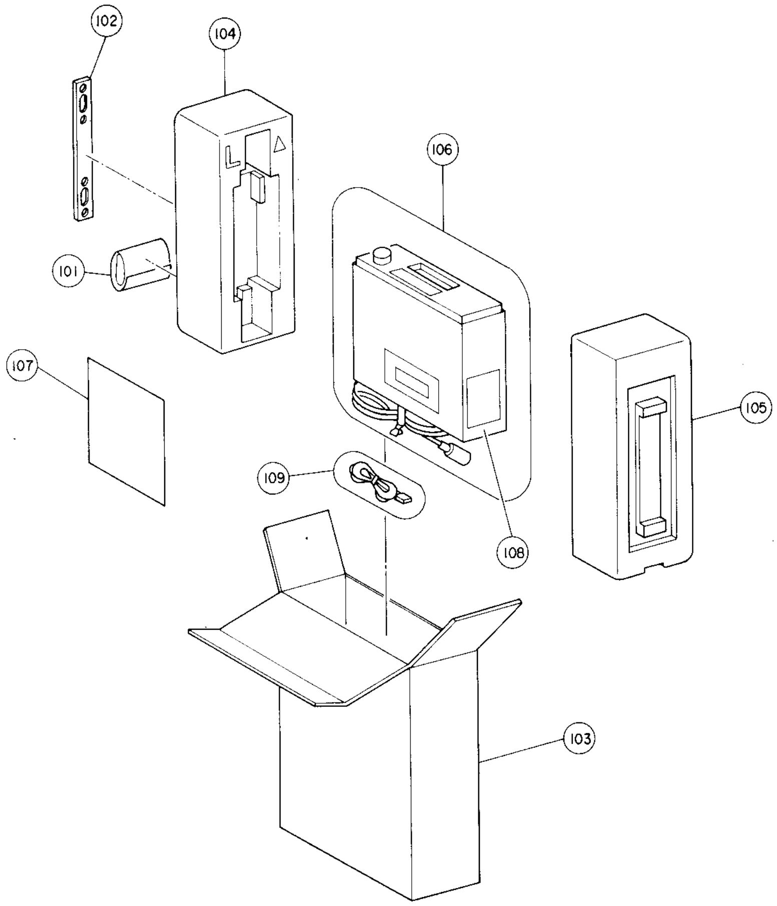
Packing Assembly Parts List

Symbol No.	Part No.	Description		
101	01V11900W35	Assy., Kit Installation		
101-1	02B47353F01	Nut, Hex (M5)		
101-2	03B44963F03	Bolt, Hex W/Washer (M5 × 10)		
101-3	03S63857F05	Screw, Tapping (M5 × 15)		
101-4	03S52360F37	Screw, Countersunk (M4 × 8)		
101-5	45A41684U01	Arm, Adapter		
101-6	03A40155F05	Bolt, Hex (M5 × 14)		
101-7	03A40155F01	Bolt, Hex (M5 × 8)		
101-8	03A84814F04	Screw, Bind (M2.6 × 8)		
101-9	43A58272F04	Spacer		
102	07B64552F01	Bracket, Strap Receiver		
▲ 103	56S12717W30	Carton, Packing (Individual)		
■ 103	56S12717W31	Carton, Packing (Individual)		
● 103	56S12717W15	Carton, Packing (Individual)		
104	56D82187F01	Tray, Packing (L)		

Symbol No.	Part No.	Description		
105	56D82187F02	Tray, Packing (R)		
106	56B40990T36	Sack, Polyetylene		
● 107	68P10790W79	Owner's Manual		
▲ 107	68P10790W89	Owner's Manual		
■ 107	68P10790W96	Owner's Manual		
● 108	01V14800W85	Assy., Mother Case		
▲ 108	01V14800W67	Assy., Mother Case		
■ 108	01V14800W67	Assy., Mother Case		
108-1	15D94518F01	Case, Mother		
108-2	03S44205G33	Screw, Pan (M2.6 × 8)		
108-3	03S44205G29	Screw, Pan (M2.6 × 6)		
● 108-4	01T94840F11	Connector, QRB (PLUG) (with 5A Fuse, For ACC Line)		
▲ 108-4	01T94840F10	Connector, QRB (PLUG) (with 5A Fuse, For ACC Line)		
■ 108-4	01T94840F10	Connector, QRB (PLUG) (with 5A Fuse For ACC Line)		
109	01T96095F01	Assy., Connector (4P)		

Notes : ● : For 7280MS model only, ■ : For 7280LS model only,
▲ : For 7280ES model only, Others : Common.

Packing Method View

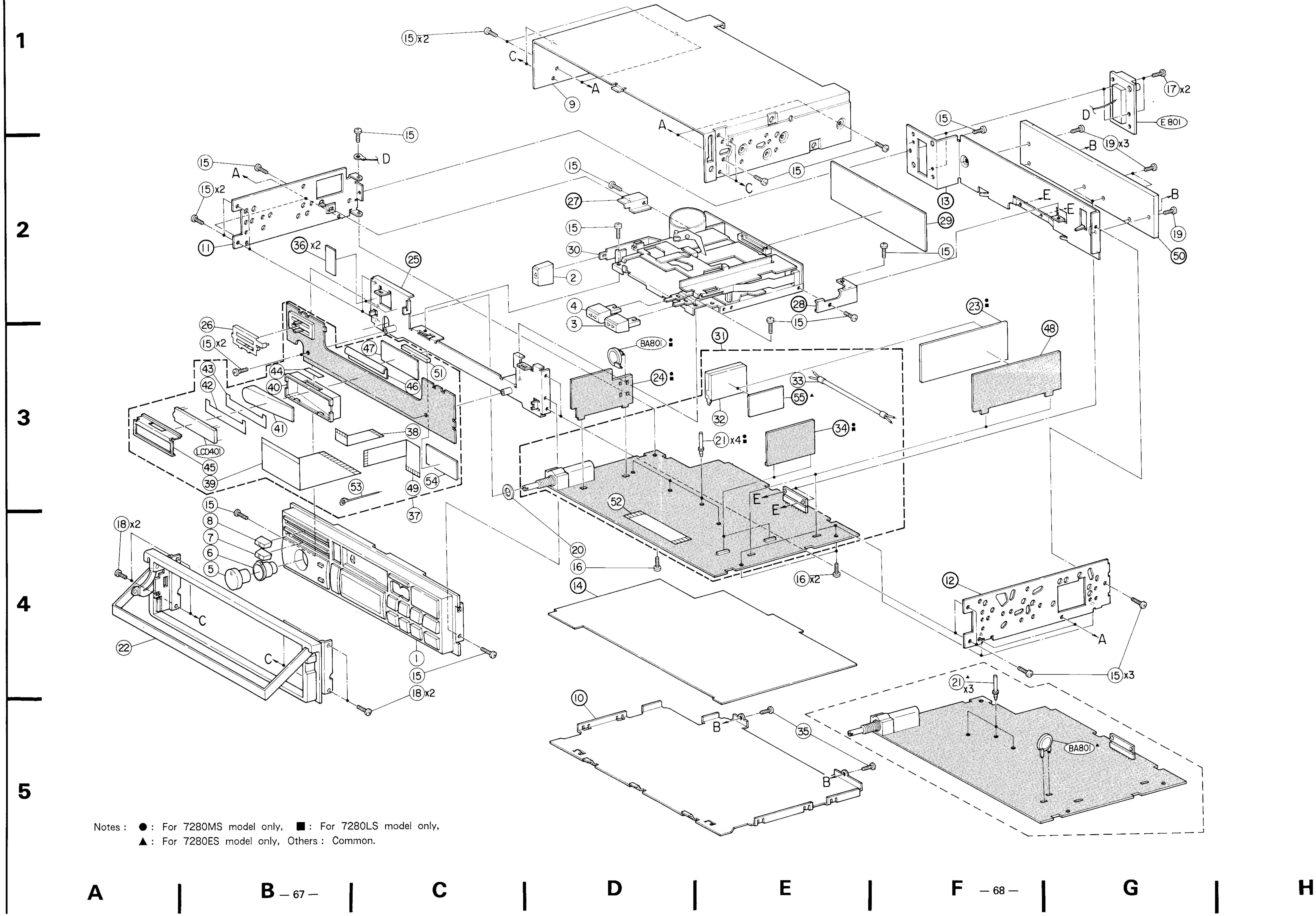


NOTE : The parts without part numbers are not supplied.

Symbol No.	Index	Part No.	Description		
● 1	4-C	13D11308W07	Assy., Nosepiece		
■ 1	4-C	13D13046W02	Assy., Nosepiece		
▲ 1	4-C	13D13046W01	Assy., Nosepiece		
2	2-D	36B94059F01	Knob, Eject		
3	3-D	36B94060F01	Knob, FF		
4	2-D	36B94061F01	Knob, REW		
5	4-B	36A94114F01	Knob, Control (Front)		
6	4-B	36A94115F01	Knob, Control (Back)		
7	4-B	36A94418F01	Knob, Slide		
8	4-B	36A94418F02	Knob, Slide (B)		
9	1-D	15C94345F02	Cover, Top		
15		03S44205G07	Screw, Pan (M2.6 × 5)		
16		03S44205G48	Screw, Pan (M2.6 × 5)		
17	1-G	03S44205G33	Screw, Pan (M2.6 × 8)		
18		03S44205G34	Screw, Pan (M2.6 × 5)		
19		03S82672F09	Screw, Bind (M2.6 × 10)		
20	4-D	04A43020G05	Washer, Flat (M9.2)		
21	3-E	09T84840F01	Lug, Style (18mm)		
22	4-A	07C10065W01	Assy., Handle Bracket		
26	3-B	07A96021F01	Bracket, Shield		
30	2-D	81D12410W02	Deck, Cassette (GT75L110)		
● 32	3-E	77T94489F01	Tuner Unit, TFFE2U143A (FE1		
■ 32	3-E	77T94489F01	Tuner Unit, TFFE2U143A (FE1		
▲ 32	3-E	77T74537F03	Tuner Unit, TFFE2U137A (FE1		
● 33	3-E	01T94494F01	Assy., Shield Wire		
■ 33		01T94494F01	Assy., Shield Wire		
▲ 33	3-E	01T83932F06	Assy., Shield Wire		
35	5-E	03S71677F10	Screw, Pan (M2.6 × 5)		
● 37	4-C	01V14800W45	Assy., Front P. C. Board		
■ 37	4-C	01V14800W45	Assy., Front P. C. Board		
▲ 37	4-C	01V14800W52	Assy., Front P. C. Board		
● 38	3-C	01T94498F01	Assy., Paralell Wire (8P)		
■ 38	3-C	01T94498F01	Assy., Paralell Wire		
▲ 38	3-C	01T95070F03	Assy., Paralell Wire (8P)		
● 39	4-B	01T94498F04	Assy., Flat Wire (32P)		
■ 39	3-B	01T94498F04	Assy., Flat Wire (32P)		
▲ 39	3-B	01T95070F04	Assy., Paralell Wire (30P)		
40	3-B	15B94066F01	Case, LCD		
41	3-B	61A94067F01	Lens, LCD		
42	3-B	26A94068F01	Reflector, Sheet		
43	3-B	26A94068F02	Reflector, Sheet		
44	3-B	26A83087F08	Reflector, Door		
45	3-B	07A94069F01	Bracket, Shield		
46	3-C	14S81482F88	Insulator, Cover		
47	3-C	14S81482F89	Insulator, Cover		
● 49	3-C	30T82417F01	Assy., Flat Cable (12P)		
■ 49	3-C	30T82417F01	Assy., Flat Cable (12P)		
▲ 49	3-C	01T95071F01	Assy., Flat Cable (12P)		
51	3-C	75S92415F72	Cushion, Rubber		
● 52	3-D	01T94492F01	Flat Cable (4P)		
■ 52	3-D	01T94492F01	Flat Cable (4P)		
▲ 52	3-D	01T95070F01	Flat Cable (5P)		
53	3-2	01T95113F01	Lug, Wire		
54	3-C	14A10323W01	Insulator Shield		

Notes : ● : For 7280MS model only, ■ : For 7280LS model only,
▲ : For 7280ES model only, Others : Common.

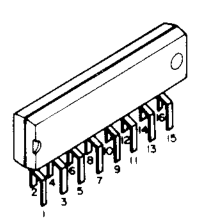
Exploded View (Cabinet)

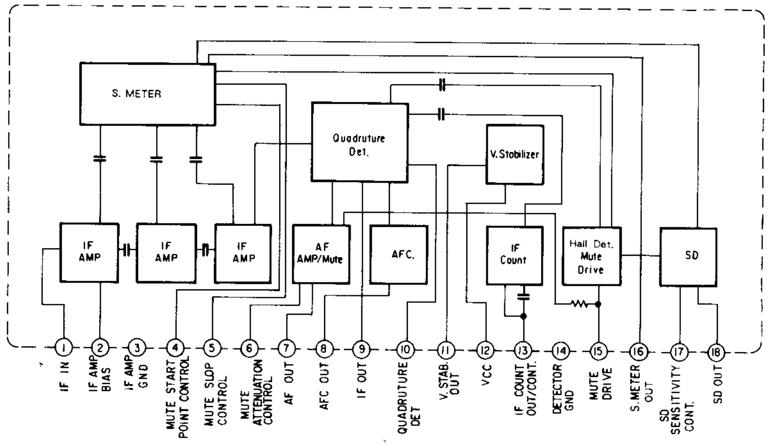

1
2
3
4
5
A
B
C
D
E
F
G
H
⑮x2
C
A
⑨
A
C
⑮
⑰x2
D
E801
⑮
⑲x3
B
⑮
D
⑮
A
⑮x2
⑪
⑮
㉗
⑮
㉚
②
④
③
㉙
⑬
E
E
B
⑲
㊿
⑮
㉘
⑮
㊱x2
㉕
㉖
⑮x2
㊸
㊷
㊹
㊵
㊶
㊼
㊻
(51)
BA801
㉔
㉛
㉝
㉜
(55)
㉓
㊽
㉞
㉑x4
㊳
LCD401
㊺
㊴
㊾
(54)
㊲
(53)
(52)
E
E
⑮
⑧
⑦
⑥
⑤
⑱x2
⑳
⑯
⑯x2
⑭
⑫
A
⑮x3
①
C
C
㉒
⑮
⑱x2
⑩
B
㉟
B
㉑x3
BA801

Notes : ● : For 7280MS model only, ■ : For 7280LS model only,
▲ : For 7280ES model only, Others : Common.

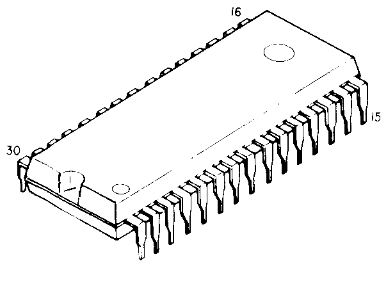
Semi-Conductor Lead Identifications

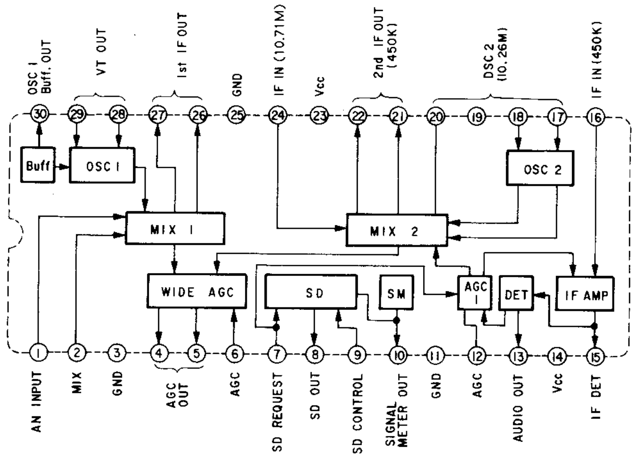
▲ LA1145 : IC1
●■ LA1145 : IC2


1
3
5
7
9
11
13
15

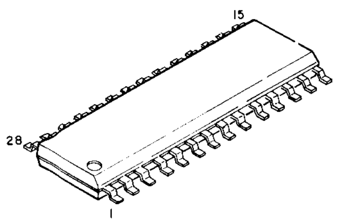

S. METER
Quadruture Det.
V.Stabilizer
IF AMP
IF AMP
IF AMP
AF AMP/Mute
AFC.
IF Count
Hall Det. Mute Drive
SD
1 IF IN
2 IF AMP BIAS
3 IF AMP GND
4 MUTE START POINT CONTROL
5 MUTE SLOP CONTROL
6 MUTE ATTENUATION CONTROL
7 AF OUT
8 AFC OUT
9 IF OUT
10 QUADRUTURE DET
11 V.STAB. OUT
12 VCC
13 IF COUNT OUT/CONT.
14 DETECTOR GND
15 MUTE DRIVE
16 S.METER OUT
17 SD SENSITIVITY CONT.
18 SD OUT

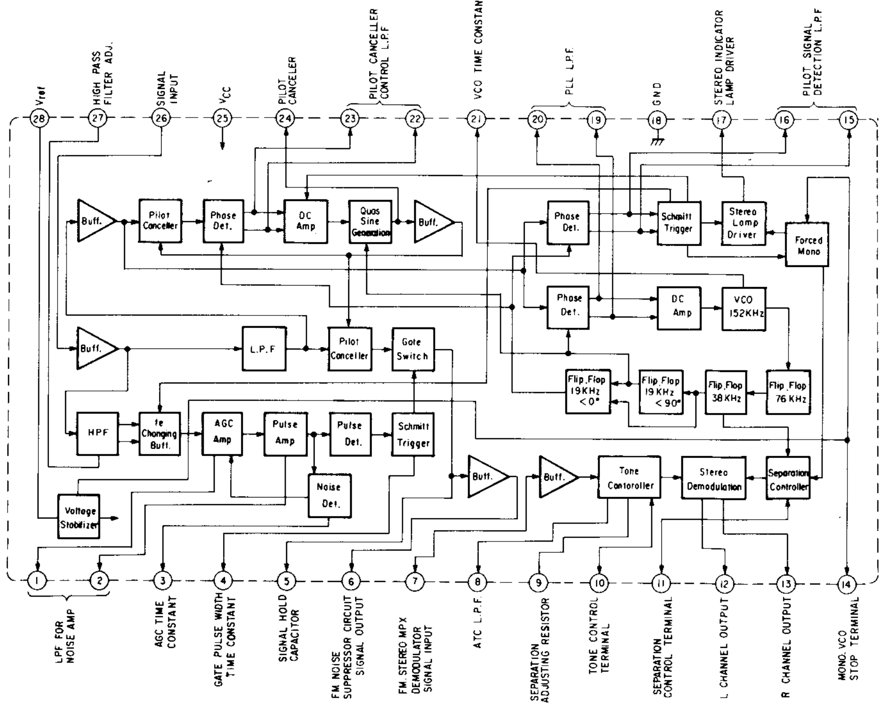
●■ μ PC1322CA : IC1




OSC 1 Buff. OUT
VT OUT
1st IF OUT
GND
IF IN (10.71M)
Vcc
2nd IF OUT (450K)
DSC 2 (10.26M)
IF IN (450K)
Buff
OSC 1
OSC 2
MIX 1
MIX 2
WIDE AGC
SD
SM
AGC 1
DET
IF AMP
1 AN INPUT
2 MIX
3 GND
4 5 AGC OUT
6 AGC
7 SD REQUEST
8 SD OUT
9 SD CONTROL
10 SIGNAL METER OUT
11 GND
12 AGC
13 AUDIO OUT
14 Vcc
15 IF DET

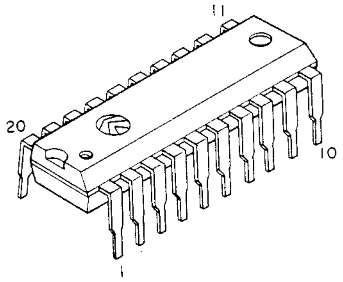
▲ AN7465S : IC2
●■ AN7465S : IC3

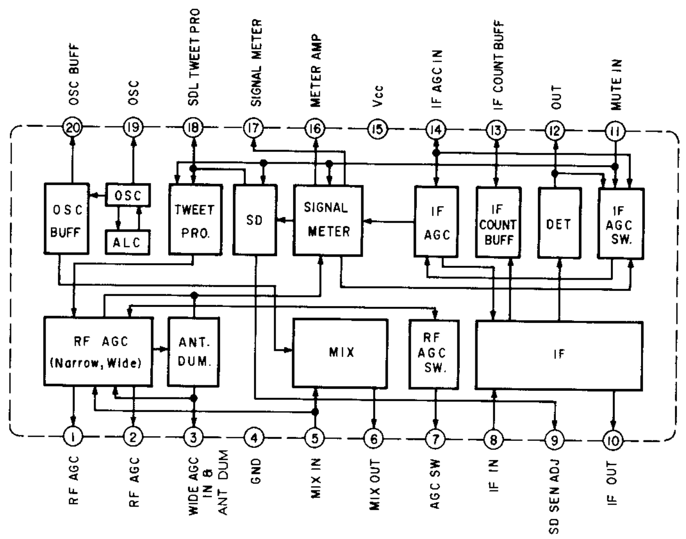



28 Vref
27 HIGH PASS FILTER ADJ.
26 SIGNAL INPUT
25 VCC
24 PILOT CANCELER
23 22 PILOT CANCELLER CONTROL L.P.F
21 VCO TIME CONSTANT
20 19 PLL L.P.F.
18 GND
17 STEREO INDICATOR LAMP DRIVER
16 15 PILOT SIGNAL DETECTION L.P.F
Buff.
Pilot Canceller
Phase Det.
DC Amp
Quas Sine Generation
Buff.
Phase Det.
Schmitt Trigger
Stereo Lamp Driver
Forced Mono
Phase Det.
DC Amp
VCO 152KHz
Buff.
L.P.F
Pilot Canceller
Gate Switch
Flip.Flop 19KHz <0°
Flip.Flop 19KHz <90°
Flip.Flop 38KHz
Flip.Flop 76KHz
HPF
fe Changing Buff.
AGC Amp
Pulse Amp
Pulse Det.
Schmitt Trigger
Noise Det.
Buff.
Buff.
Tone Contoroller
Stereo Demodulation
Separation Controller
Voltage Stabilizer
1 2 LPF FOR NOISE AMP
3 AGC TIME CONSTANT
4 GATE PULSE WIDTH TIME CONSTANT
5 SIGNAL HOLD CAPACITOR
6 FM NOISE SUPPRESSOR CIRCUIT SIGNAL OUTPUT
7 FM STEREO MPX DEMODULATOR SIGNAL INPUT
8 ATC L.P.F.
9 SEPARATION ADJUSTING RESISTOR
10 TONE CONTROL TERMINAL
11 SEPARATION CONTROL TERMINAL
12 L CHANNEL OUTPUT
13 R CHANNEL OUTPUT
14 MONO VCO STOP TERMINAL

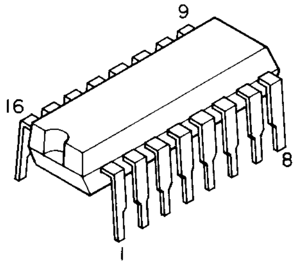
Notes : ● : For 7280MS model only, ■ : For 7280LS model only,
▲ : For 7280ES model only, Others : Common.

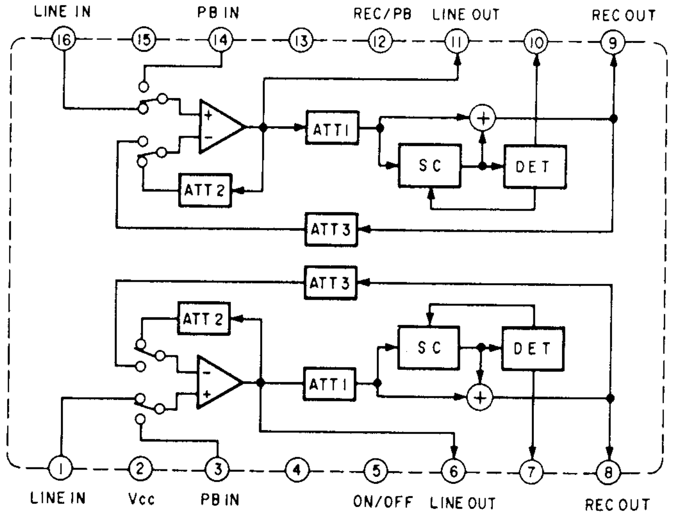
▲LA1137 : IC3



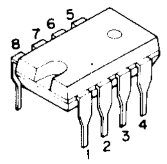

20 OSC BUFF
19 OSC
18 SDL TWEET PRO
17 SIGNAL METER
16 METER AMP
15 Vcc
14 IF AGC IN
13 IF COUNT BUFF
12 OUT
11 MUTE IN
OSC BUFF
OSC
ALC
TWEET PRO.
SD
SIGNAL METER
IF AGC
IF COUNT BUFF
DET
IF AGC SW.
RF AGC (Narrow, Wide)
ANT. DUM.
MIX
RF AGC SW.
IF
1 RF AGC
2 RF AGC
3 WIDE AGC IN & ANT DUM
4 GND
5 MIX IN
6 MIX OUT
7 AGC SW
8 IF IN
9 SD SEN ADJ
10 IF OUT

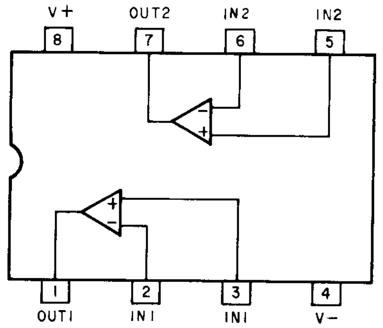
CXA1163 : IC201




LINE IN
PB IN
REC/PB
LINE OUT
REC OUT
16 15 14 13 12 11 10 9
ATT 1
ATT 2
SC
DET
ATT 3
ATT 3
ATT 2
SC
DET
ATT 1
1 2 3 4 5 6 7 8
LINE IN
Vcc
PB IN
ON/OFF
LINE OUT
REC OUT

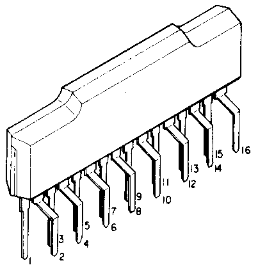
▲ μ PC4558C : IC202, 203
●■ μ PC4558C : IC301

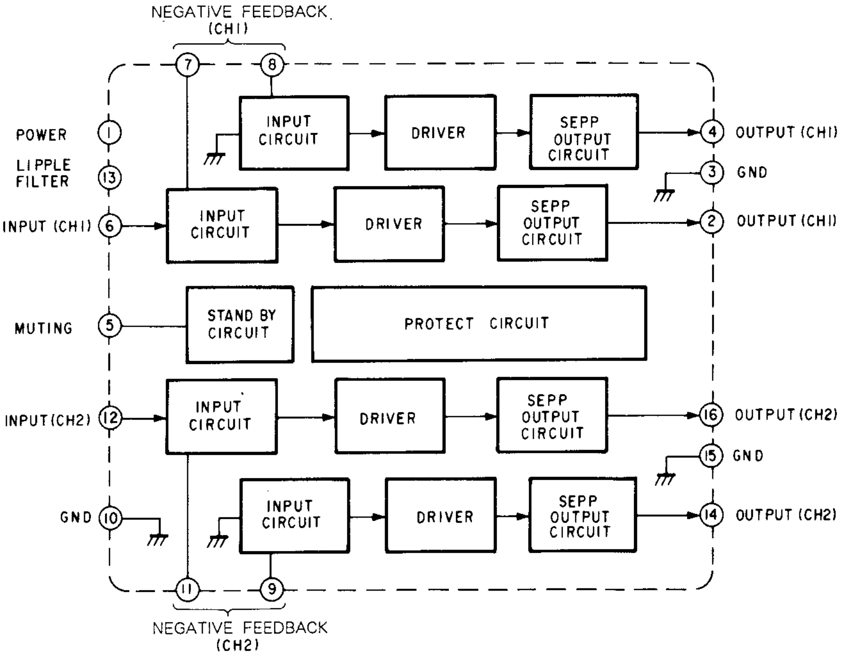



V+
OUT2
IN2
IN2
8
7
6
5
1
2
3
4
OUT1
IN1
IN1
V−

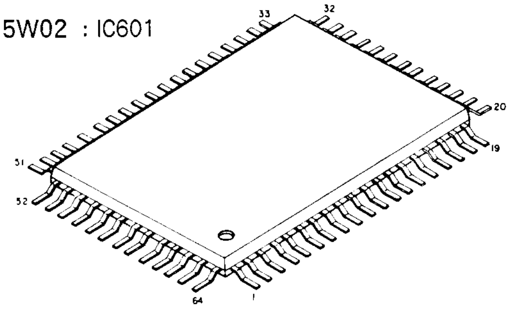
Notes : ● : For 7280MS model only, ■ : For 7280LS model only,
▲ : For 7280ES model only, Others : Common.

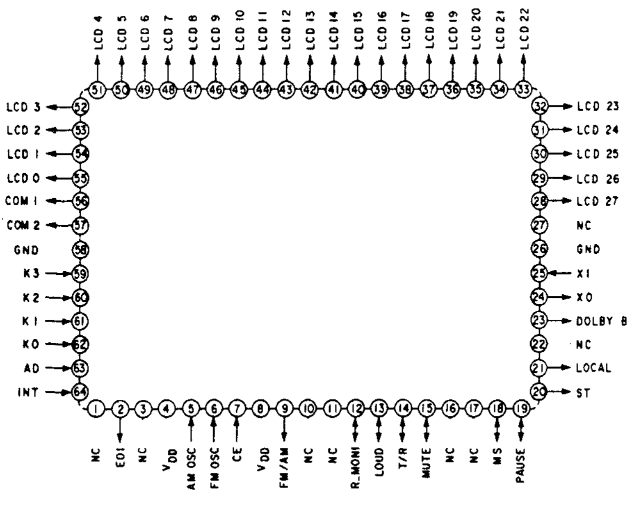
▲ AN7171K : IC204
●■ AN7171K : IC303


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

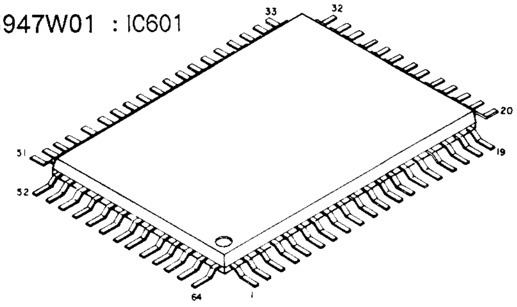

NEGATIVE FEEDBACK
(CH1)
7
8
POWER
1
LIPPLE
FILTER
13
INPUT (CH1)
6
INPUT CIRCUIT
DRIVER
SEPP OUTPUT CIRCUIT
4
OUTPUT (CH1)
3
GND
2
OUTPUT (CH1)
MUTING
5
STAND BY CIRCUIT
PROTECT CIRCUIT
INPUT(CH2)
12
16
OUTPUT (CH2)
15
GND
GND
10
14
OUTPUT (CH2)
11
9
NEGATIVE FEEDBACK
(CH2)

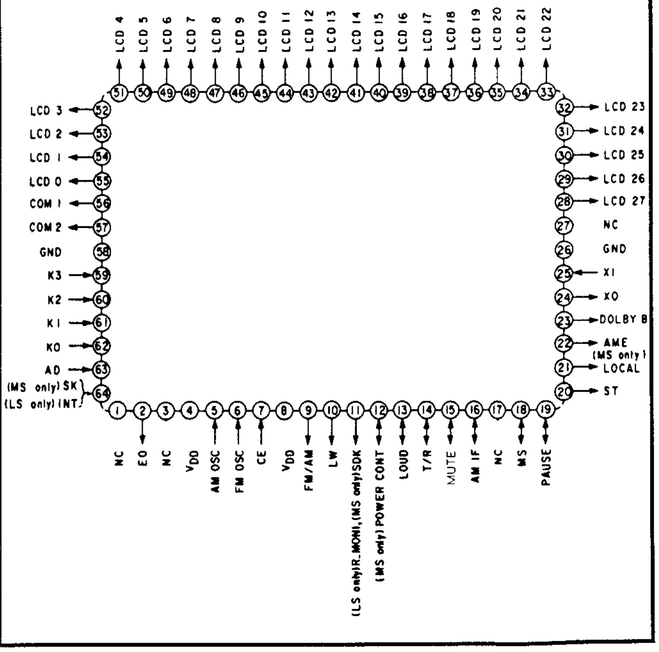
▲15515W02 : IC601


33
32
20
19
51
52
64
1


LCD 4
LCD 5
LCD 6
LCD 7
LCD 8
LCD 9
LCD 10
LCD 11
LCD 12
LCD 13
LCD 14
LCD 15
LCD 16
LCD 17
LCD 18
LCD 19
LCD 20
LCD 21
LCD 22
LCD 3
LCD 2
LCD 1
LCD 0
COM 1
COM 2
GND
K3
K2
K1
K0
AD
INT
LCD 23
LCD 24
LCD 25
LCD 26
LCD 27
NC
GND
XI
XO
DOLBY B
NC
LOCAL
ST
NC
EO1
NC
V_{DD}
AM OSC
FM OSC
CE
V_{DD}
FM/AM
NC
NC
R_MONI
LOUD
T/R
MUTE
NC
NC
MS
PAUSE

●■15947W01 : IC601

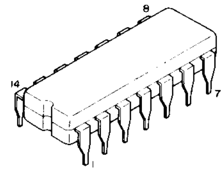

33
32
20
19
51
52
64
1

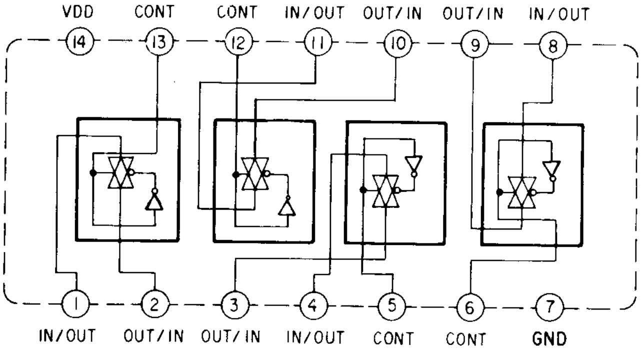

LCD 4
LCD 5
LCD 6
LCD 7
LCD 8
LCD 9
LCD 10
LCD 11
LCD 12
LCD 13
LCD 14
LCD 15
LCD 16
LCD 17
LCD 18
LCD 19
LCD 20
LCD 21
LCD 22
LCD 3
LCD 2
LCD 1
LCD 0
COM 1
COM 2
GND
K3
K2
K1
K0
AD
(MS only) SK
(LS only) INT
LCD 23
LCD 24
LCD 25
LCD 26
LCD 27
NC
GND
XI
XO
DOLBY B
AME
(MS only)
LOCAL
ST
NC
EO
NC
V_{DD}
AM OSC
FM OSC
CE
V_{DD}
FM/AM
LW
(LS only)R_MONI,(MS only)SDK
(MS only) POWER CONT
LOUD
T/R
MUTE
AM IF
NC
MS
PAUSE

Notes : ● : For 7280MS model only, ■ : For 7280LS model only,
▲ : For 7280ES model only, Others : Common.

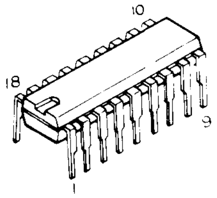
TC4066BP : IC602, 603

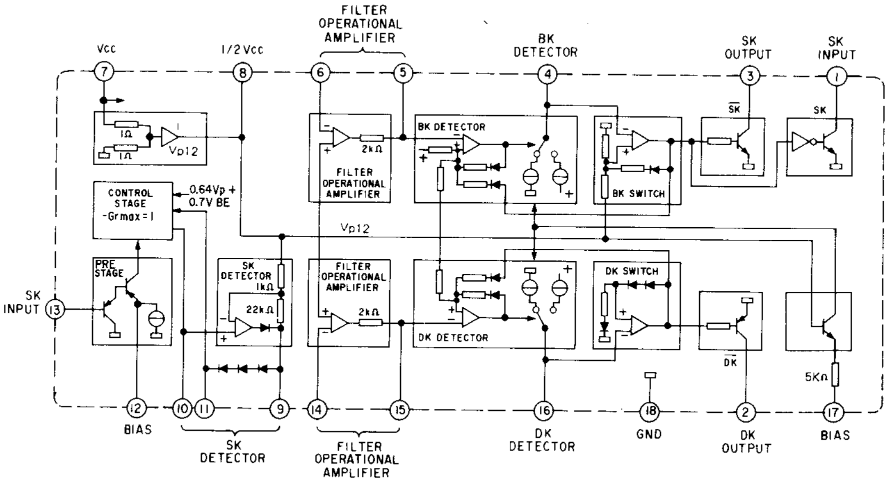
●■ TC4066BP : IC606



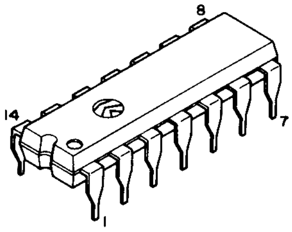

VDD
CONT
CONT
IN/OUT
OUT/IN
OUT/IN
IN/OUT
14
13
12
11
10
9
8
1
2
3
4
5
6
7
IN/OUT
OUT/IN
OUT/IN
IN/OUT
CONT
CONT
GND

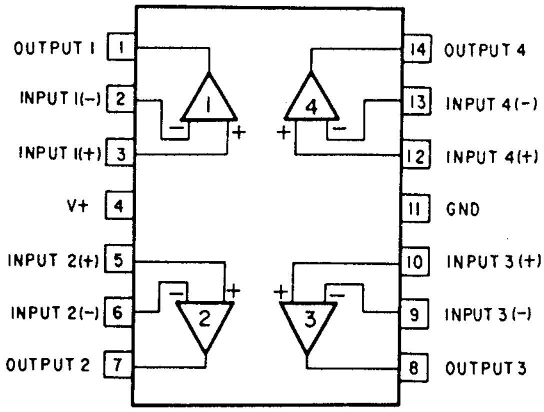
● TDA1579 : IC604



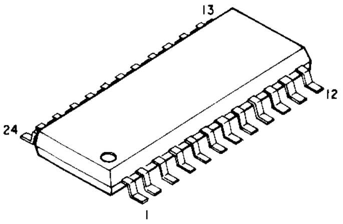

FILTER
OPERATIONAL
AMPLIFIER
Vcc
1/2 Vcc
BK
DETECTOR
SK
OUTPUT
SK
INPUT
7
8
6
5
4
3
1
1Ω
1Ω
Vp12
CONTROL
STAGE
-Grmax=1
0.64Vp +
0.7V BE
2kΩ
FILTER
OPERATIONAL
AMPLIFIER
BK DETECTOR
BK SWITCH
SK
SK
Vp12
PRE
STAGE
SK
DETECTOR
1kΩ
22kΩ
FILTER
OPERATIONAL
AMPLIFIER
2kΩ
DK DETECTOR
DK SWITCH
DK
5KΩ
SK
INPUT
13
12
10
11
9
14
15
16
18
2
17
BIAS
SK
DETECTOR
FILTER
OPERATIONAL
AMPLIFIER
DK
DETECTOR
GND
DK
OUTPUT
BIAS

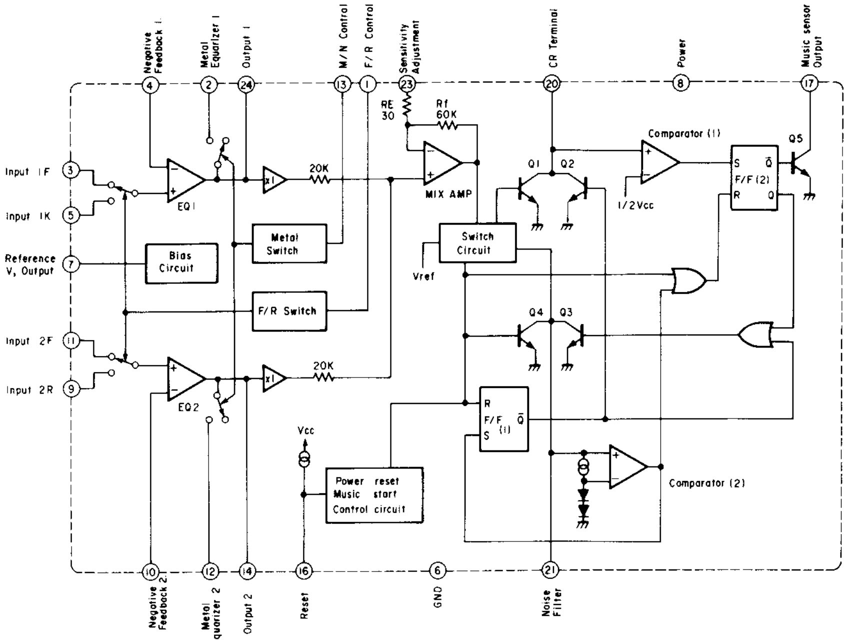
● NJM2902N : IC605




OUTPUT 1
1
INPUT 1(−)
2
INPUT 1(+)
3
V+
4
INPUT 2(+)
5
INPUT 2(−)
6
OUTPUT 2
7
14
OUTPUT 4
13
INPUT 4(−)
12
INPUT 4(+)
11
GND
10
INPUT 3(+)
9
INPUT 3(−)
8
OUTPUT 3
1
4
2
3

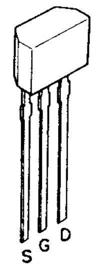
M51524 : IC1501



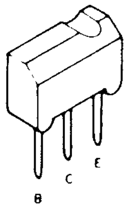

Negative Feedback 1
Metal Equalizer 1
Output 1
M/N Control
F/R Control
Sensitivity Adjustment
CR Terminal
Power
Music sensor Output
4
2
24
13
1
23
20
8
17
RE 30
Rf 60K
Comparator (1)
Q5
Input 1F
Input 1K
Reference V, Output
Input 2F
Input 2R
3
5
7
11
9
EQ1
x1
20K
MIX AMP
Q1
Q2
S
Q̄
F/F (2)
R
Q
1/2Vcc
Bias Circuit
Metal Switch
Switch Circuit
Vref
F/R Switch
Q4
Q3
EQ2
x1
20K
R
F/F (1)
Q̄
S
Vcc
Power reset Music start Control circuit
Comparator (2)
10
12
14
16
6
21
Negative Feedback 2
Metal Equarizer 2
Output 2
Reset
GND
Noise Filter

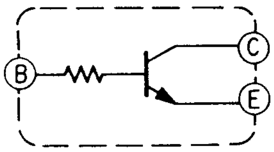
●■ 2SK715 : Q1

▲ 2SK715 : Q6



▲DTC114T : Q1, 602, 603





▲ DTC124 : Q2, 601, 608, 610, 611, 803, 806, 808, 810, 811

DTC124 : Q3, 202

●■ DTC124 : Q102, 106, 603, 633, 662, 663

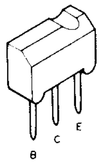
■ DTC124 : Q661

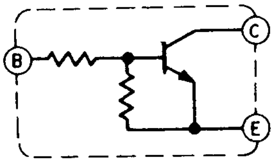
▲ DTC114 : Q204, 205

●■ DTC114 : Q303, 305

UN1224 : Q1508

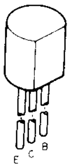
●▲ DTC124 : Q605



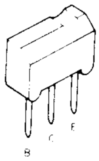


Notes : ● : For 7280MS model only, ■ : For 7280LS model only,
▲ : For 7280ES model only, Others : Common.

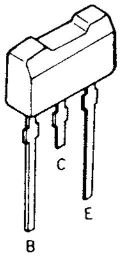
●■ 2SC1815 : Q2, 657
▲ 2SC1815 : Q5
● 2SC1815 : Q651, 653, 654, 655, 659
● 2SA1015 : Q652

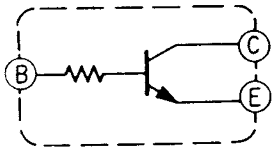


●■ 2SD636 : Q4, 301, 302, 658, 801
2SD636 : Q201
▲ 2SD636 : Q802
●■ 2SD1330 : Q304, 306, 311, 312
● 2SD1330 : Q307, 308
●■ 2SD661 : Q601, 602
▲ 2SD661 : Q606, 607
▲ 2SD973A : Q801, 805
●■ 2SD973A : Q802, 803
●■ 2SD638 : Q804
●▲ 2SD638 : Q807
● 2SB641 : Q656
▲ 2SB644 : Q804, 809
●■ 2SB644 : Q644

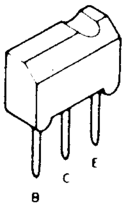


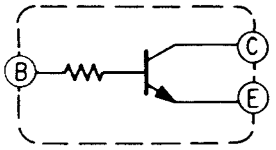
▲ DTC363T : Q206~209
●■ DTC343T : Q103, 104





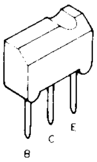
● UN1215 : Q604, 605
●■ UN1215 : Q606, 805, 806

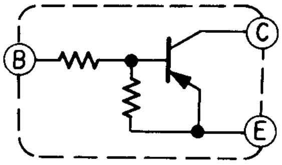




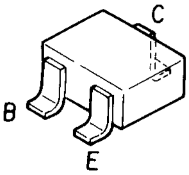
Notes : ● : For 7280MS model only, ■ : For 7280LS model only,
▲ : 7280ES model only, Others : Common.

▲ DTA124 : Q612
●■ DTA124 : Q632
▲ DTA114 : Q613
●■ DTA114 : Q631

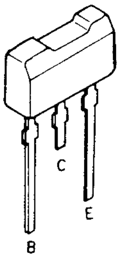




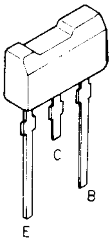
2SD1328 : Q1502
2SA1037K : Q1503
2SD602A : Q1509

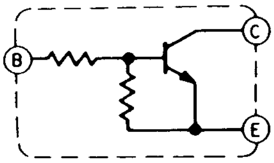


2SB1241 : Q1506

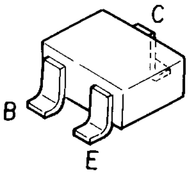


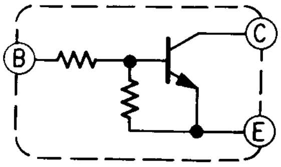
UN6211 : Q1507





DTC124K : Q1501, 1504, 1505, 1510



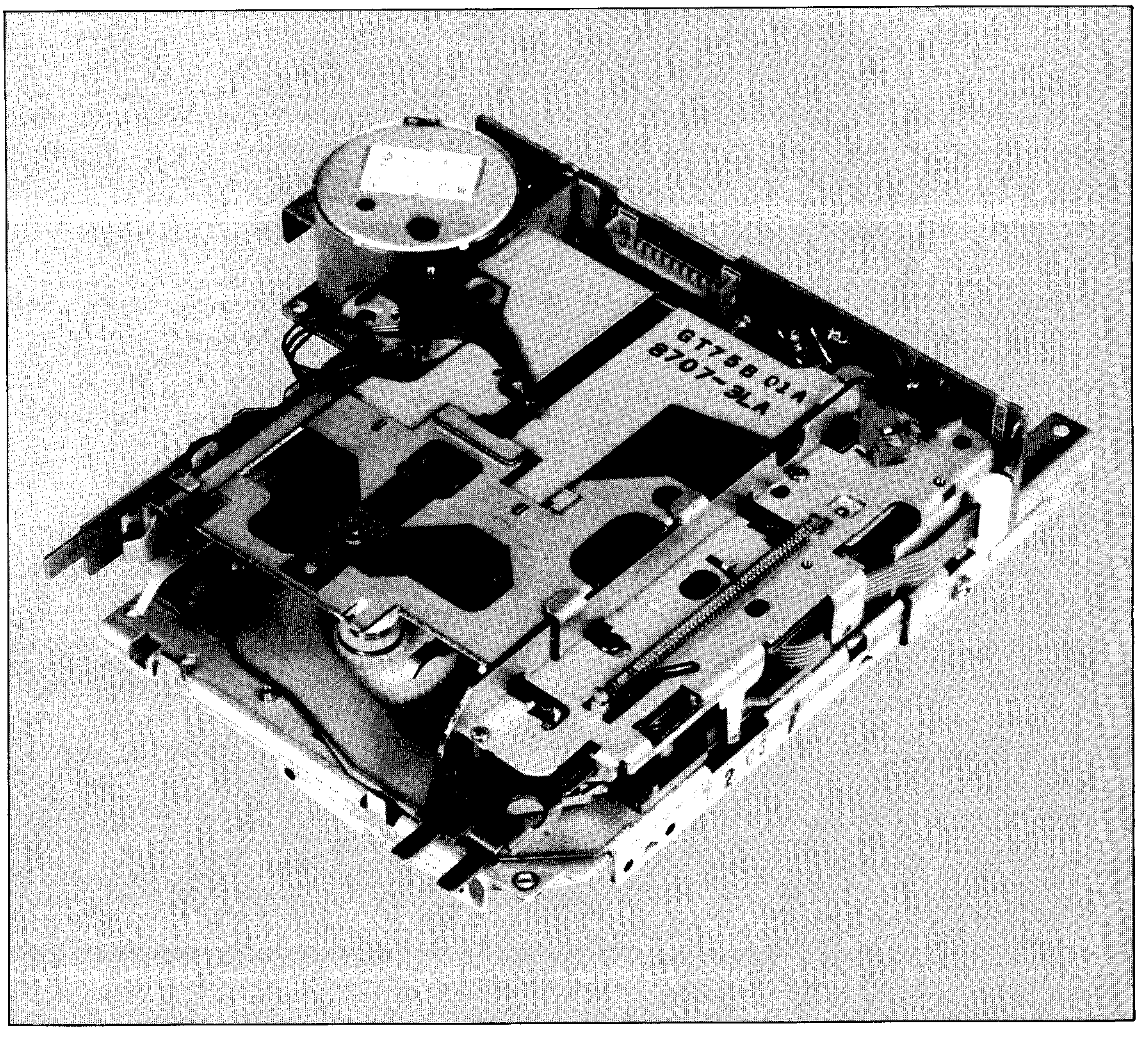


Notes : ● : For 7280MS model only, ■ : For 7280LS model only,
▲ : 7280ES model only, Others : Common.

ALPINE **SERVICE MANUAL**

Exploded View & Parts List For Cassette Deck Mechanism

ADDENDUM & REVISED (III)


GT758 01A
8707-3LA

GT SERIES

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Parts List (1／3) ······ 7 to 8
Exploded View (1／3) ······ 9 to 10
Exploded View (2／3) ······ 11 to 12
Parts List (2／3) ······ 13 to 14
Parts List (3／3) ······ 15 to 16
Exploded View (3／3) ······ 17 to 18

Replacement of Mechanical Parts

1. Replacement of Belt

(1) Remove two screws marked " ● " and " ◎ " as shown in Figure 1 and remove the flywheel mounting bracket.
(2) Remove one screw " ○ " and motor pulley cover as shown in Figure 1.
(3) Clean a good belt with alcohol and thread the belt as shown in Figure 2. Assembly the unit, performing above steps in reverse order.
(4) Confirm the tape speed and wow/flutter with the test tape (MTT-111).

2. Replacement of Motor

(1) Remove two screws marked " △ " as shown in Figure 1.
(2) Remove two belts (A) and (B) as shown in Figure 2.
(3) Remove wire leads from the motor terminal and the motor will be removed.

3. Replacement of Flywheel

(1) Remove the flywheel mounting bracket and the belt (A) as shown in Figure 2.
(2) Remove the flywheel by moving it straight up.
(3) Mount a good flywheel. (In this case also insert the flywheel washer and apply a drop of " mobile 1 " oil.)
(4) Mount the belt and the flywheel mounting bracket.
(5) After assembling, confirm the tape speed and wow-flutter, using a test tape (MTT-111).

Notes :

1. Take care the belt is not stained with oil.
2. When tightening screws for the flywheel bracket, apply tightening torque of 4.5kg•cm (marked " ◎ ") and 2.5kg • cm (marked " ● ").
   (GT75B Series model only)
   When tightening screws for the flywheel bracket, apply tightening torque of 6kg•cm (marked " ◎ ") and 2.3kg • cm (marked " ● ")
   (On GT75L010 / GT75L110 / GT75L220 / GT75L020/GT75L02N/GT75L120/GT75L12N models only)

4. Replacement of Reels

(1) Remove two flywheels.
(2) Remove two lock washers as shown in Figure 3 and the two reels will be removed.
(3) Replace with good reels and assembly them using above steps in reverse order.
(4) After assembling, confirm the tape speed and wow-flutter using a test tape (MTT-111).

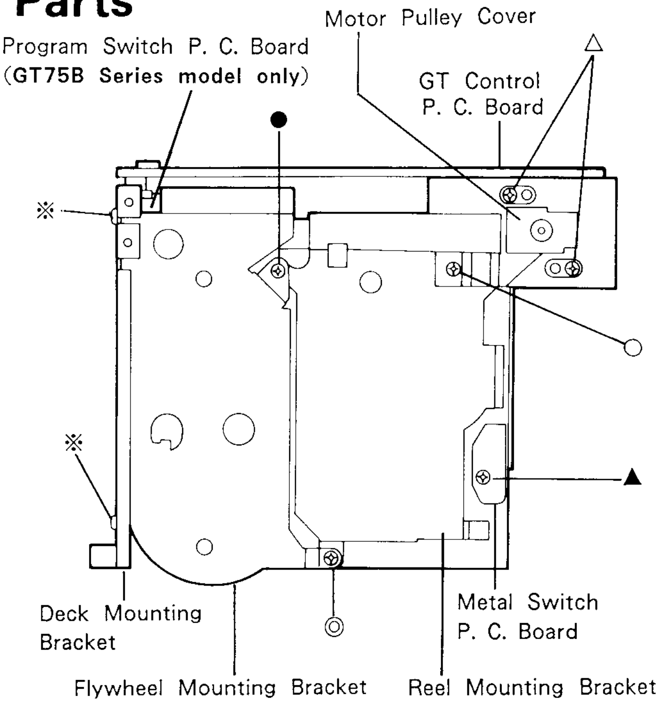

Motor Pulley Cover
Program Switch P. C. Board
(GT75B Series model only)
△
GT Control P. C. Board
●
※
○
※
▲
Deck Mounting Bracket
◎
Metal Switch P. C. Board
Flywheel Mounting Bracket
Reel Mounting Bracket

Figure 1

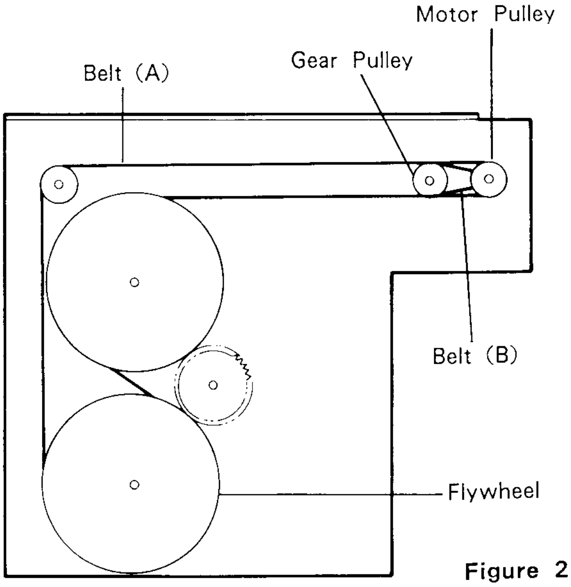

Motor Pulley
Gear Pulley
Belt (A)
Belt (B)
Flywheel

Figure 2

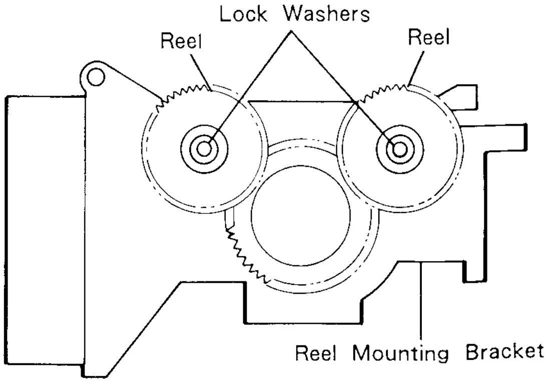

Lock Washers
Reel
Reel
Reel Mounting Bracket

Figure 3

5. Replacement of Head

(1) Remove two screws marked "※" as shown in Figure 1.

(2) Remove two screws marked "■" as shown in Figure 8.

(3) Remove two screws marked "◩" and the head flexible P. C. Board can be removed as shown in Figure 4. Then remove the P. C. Board.

(4) Replace with a good head and assembly them using above steps in reverse order.

(5) After assembling, adjust the head azimuth using the test tape (MTT-114NB). Apply the screw-lock paint on the adjusting screws.

Note : Since the flexible P. C. Board is apt to be damaged, handle it with sufficient care.

Perform the head height adjustment.

(6) Place the height adjustment gauge (M-300 or AT-500) on the head base as shown in Figures 5, 6 and 7, and adjust the gauge height so that the check bar can enter the tape head guide smoothly.

(7) When the check bar touches top or bottom guide of the tape guide, insert a spacer (of 0.1mm thickness or a polyslider washer of 0.13mm in thickness). (Or remove the spacer to adjust the height).

Note : As shown in Figure 6, if the height gauge is not available, run a tape as usual and adjust the height (head and small guide window) so that no tape curling is observed.

6. Replacement fo Pinch Rollers

(1) Remove RF Frame Bracket.

(2) Remove two lock washers and two pinch roller springs and the pinch rollers can be removed as shown in Figure 4.

(3) Replace with good pinch rollers and clean them with alchol and assembly it using above steps in reverse order.

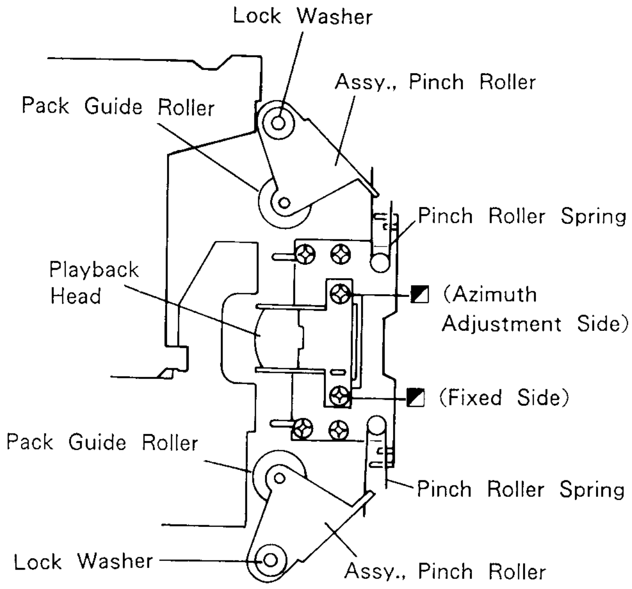
(4) After assembling, confirm the tape speed and wow-flutter with the test tape (MTT-111).

7. Replacement of Metal Switch P. C. Board

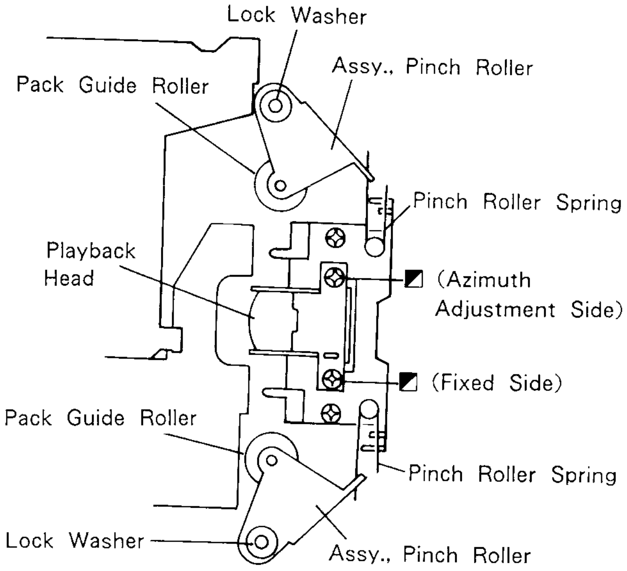
(1) Remove a screw marked "▲" in Figure 1.

Note : Since the wire parallel is apt to be damaged, handle it with sufficient care.

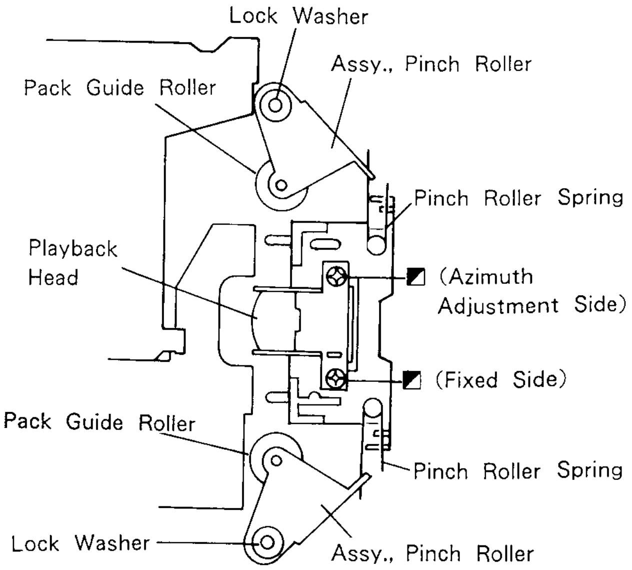
(2) Replace the board with a good one and assembly the board using above steps in reverse order.


Lock Washer
Assy., Pinch Roller
Pack Guide Roller
Pinch Roller Spring
Playback Head
◩ (Azimuth Adjustment Side)
◩ (Fixed Side)
Pack Guide Roller
Pinch Roller Spring
Lock Washer
Assy., Pinch Roller

(GT75B Series model only) Figure 4


Lock Washer
Assy., Pinch Roller
Pack Guide Roller
Pinch Roller Spring
Playback Head
◩ (Azimuth Adjustment Side)
◩ (Fixed Side)
Pack Guide Roller
Pinch Roller Spring
Lock Washer
Assy., Pinch Roller

(GT75L010/GT75L110 models only) Figure 4


Lock Washer
Assy., Pinch Roller
Pack Guide Roller
Pinch Roller Spring
Playback Head
◩ (Azimuth Adjustment Side)
◩ (Fixed Side)
Pack Guide Roller
Pinch Roller Spring
Lock Washer
Assy., Pinch Roller

(GT75L220 model only) Figure 4

8. Replacement of GT Control P. C. Board and Program Switch P. C. Board

(GT75B Series model only)

(1) Remove solders as shown in Figure 9.

(2) Remove two screws marked "☐" as shown in Figure 9.

(3) Remove all connectors and wire leads from the P. C. Boards.

(4) After replacing with good ones, assemble them using disassembly instructions in reverse order.

Replacement of GT Control P. C. Board

(On GT75L010/GT75L110/GT75L220 models only)

(1) Remove solders as shown in Figure 9.

(2) Remove two screws marked "☐" as shown in Figure 9.

(3) Remove all connectors and wire leads from the P. C. Boards.

(4) After replacing with a good one, assemble the board using disassembly instructions in reverse order.

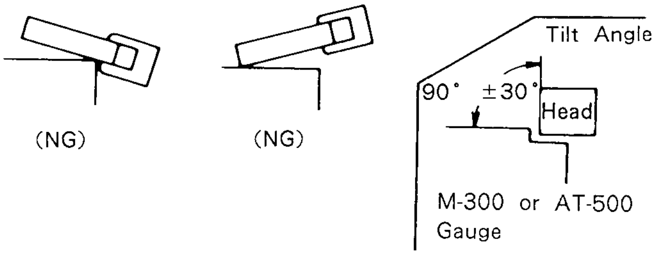

(NG)
(NG)
Tilt Angle
90° ±30°
Head
M-300 or AT-500 Gauge

Figure 5

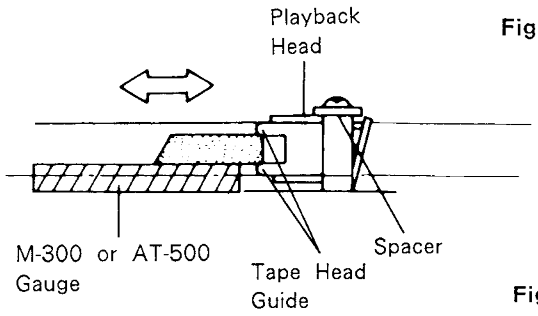
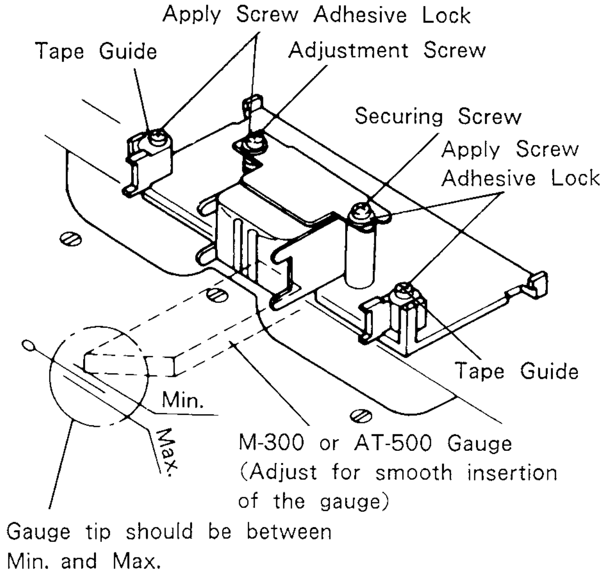
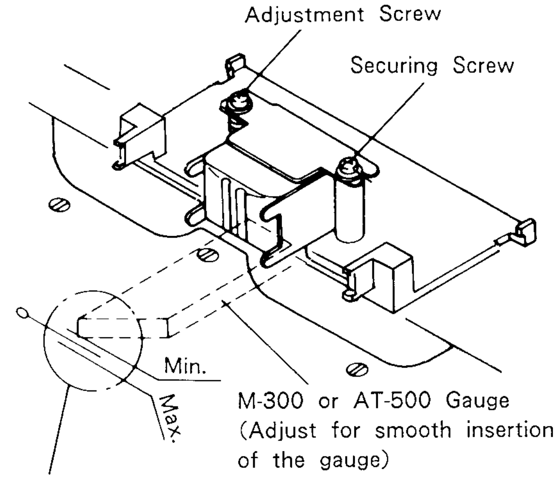

Playback Head
M-300 or AT-500 Gauge
Spacer
Tape Head Guide

Figure 6


Apply Screw Adhesive Lock
Tape Guide
Adjustment Screw
Securing Screw
Apply Screw Adhesive Lock
Tape Guide
Min.
Max.
M-300 or AT-500 Gauge (Adjust for smooth insertion of the gauge)
Gauge tip should be between Min. and Max.

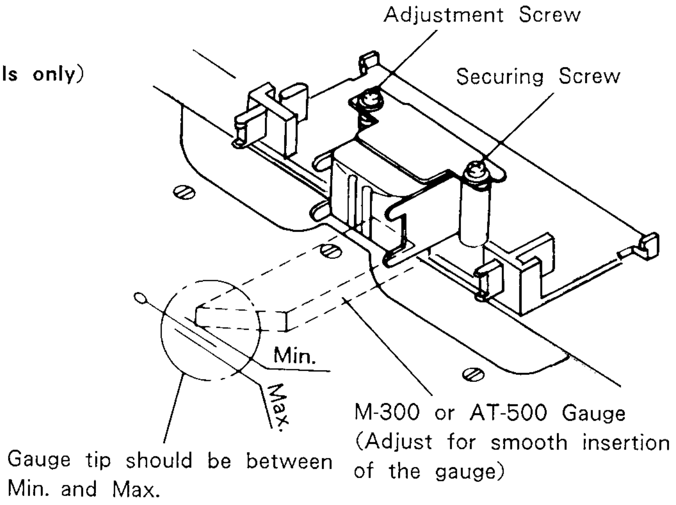
(GT75B Series model only)

Figure 7


Adjustment Screw
Securing Screw
Min.
Max.
M-300 or AT-500 Gauge (Adjust for smooth insertion of the gauge)
Gauge tip should be between Min. and Max.

(GT75L010/GT75L110 models only)

Figure 7


Adjustment Screw
Securing Screw
Min.
Max.
M-300 or AT-500 Gauge (Adjust for smooth insertion of the gauge)
Gauge tip should be between Min. and Max.

(GT75L220 model only)

9. Replacement of Mute Switch P. C. Board

(GT75B Series model only)

(1) Remove one screw marked "★" as shown in Figure 8.

(2) After replacing with a good one, assemble the P. C. Board using disassembly instructions in reverse order.

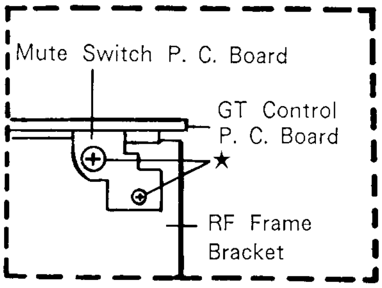
(On GT75B11A/GT75B11C/GT75B11D models only)

(1) Remove two screws marked "★" as shown in Figure A .

(2) After replacing with a good one, assemble the P. C. Boards using above steps in reverse order.

Figure Ⓐ

(GT75B11A/GT75B11C/GT75B11D models only)


Mute Switch P. C. Board
GT Control P. C. Board
★
RF Frame Bracket

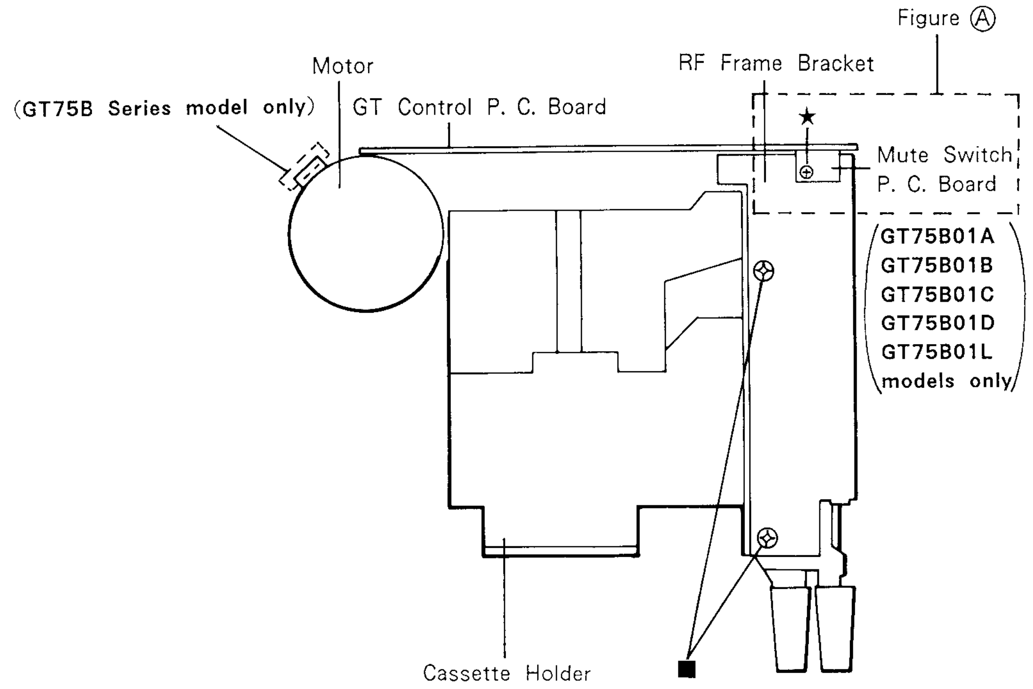
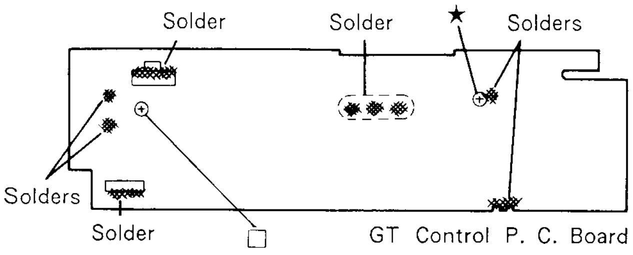


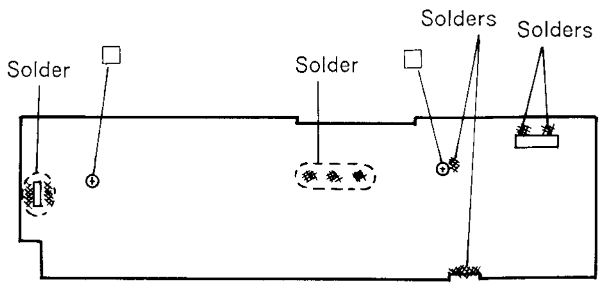
Figure Ⓐ
RF Frame Bracket
Motor
(GT75B Series model only)
GT Control P. C. Board
★
Mute Switch P. C. Board
GT75B01A
GT75B01B
GT75B01C
GT75B01D
GT75B01L
models only
Cassette Holder
■

Figure 8


Solder
Solder
★
Solders
Solders
Solder
□
GT Control P. C. Board

(GT75B Series model only)

Figure 9


Solders
Solders
Solder
□
Solder
□

(GT75L010/GT75L110/GT75L220 models only)

Figure 9

Parts List (1/3)

○ : For GT75B01A model only, ● : For GT75B01B model only,
□ : For GT75B11A model only, ■ : For GT75B11C model only, Others : Common.

	Symbol No.	Index	Part No.	Description		
	201	5-C	43A63281F01	Roller, Plate Base		
	202	5-C	43A63282F01	Roller, Eject Arm		
	203	5-C	43A80430F01	Roller, Eject Arm (B)		
	204	5-B	41A80448F01	Spring, Turn Eject		
	205	5-C	41B80444F04	Spring		
	206	3-C	04A41345P15	Washer, Lock (M1.2)		
	207		04A41345P02	Washer, Lock (M1.7)		
	208	3-A	01A82275F03	Assy., Riv. Plate Base		
	209	4-B	45B82846F01	Slider		
	210	4-B	47A63278F01	Shaft, Slider		
	211	5-B	01A80457F01	Assy., Riv. Eject Arm		
	213	5-C	01A80983F01	Assy., Riv. Eject Lever		
	214	4-B	01A63494F01	Assy., Riv. Cassette Holder		
	216	4-E	01A80461F01	Assy., Riv. Reverse Frame		
	217	3-E	44B80378F01	Gear, Change		
	218	3-E	45A80366F01	Lever, Reverse Lock		
	219	3-E	45A80367F01	Lever, Reverse Act		
	220	3-E	41B80444F02	Spring		
	221	3-E	41B80444F03	Spring		
	222		04A41345P01	Washer, Lock (M1.2)		
	224		43A80431F01	Roller, Sub Head Base		
	225	2-C	41B80444F01	Spring		
	226	2-C	01A80454F01	Assy., Riv. Head Base Act		
	227	3-D	01A80458F01	Assy., Riv. RF Arm		
	228	4-B	07B80356F01	Bracket, RF Frame		
	231	3-B	01A84687F01	Assy., Riv. RF Link		
	232	3-A	45A80361F01	Lever, Mute		
□	233	2-C	84A84245F01	Mute Switch P. C. Board		
■	233	2-C	84A84245F01	Mute Switch P. C. Board		
○	233	2-D	84A82645F01	Mute Switch P. C. Board		

	Symbol No.	Index	Part No.	Description		
●	233	2-D	84A82645F01	Mute Switch P. C. Board		
	234	3-C	41A80446F01	Spring, RF Lever		
	235	4-B	41B80444F06	Spring		
	236		03S56479F04	Screw, Pan (M2 × 7)		
	237	3-A	01A80459F01	Assy., Riv. Program Push Lever		
	238	3-C	43A80427F01	Roller, Head Base (C)		
	239		03S56479F07	Screw, Countersunk (M2.6 × 3)		
	241	2-A	84T80469F01	Head P. C. Board		
	242	3-B	07B80396F01	Frame, Head		
	243	2-B	47A80493F01	Shaft, Head Frame		
	244	2-B	43A80492F01	Roller, Head Frame		
	245		43B63198F01	Tape, Guide		
	246		43A80428F01	Roller, Head		
	247	3-B	41A63286F03	Spring, Pinch Roller		
	248	2-B	41A63286F04	Spring, Pinch Roller		
	249		41A63290F01	Spring, Tape Guide		
	250		41A80445F01	Spring, Head		
	251		03S40019G03	Screw, F-Locks (M2 × 4)		
	252	3-F	45A80386F01	Lever, Swing		
	253		49A64626F01	Reel, Ring		
	254		49A64627F01	Reel, Cap		
	255		41A64628F01	Spring, Reel		
	256	4-G	41A80450F01	Spring, Reel Clutch		
	257	4-F	03A80490F01	Screw, Flat (M1.7 × 1.5)		
	258	3-F	04S40075G23	Washer, Polyslider (M5.2)		
	259	4-G	01A80462F01	Assy., Riv. Bracket Reel		
	260	3-F	01A80463F01	Assy., Riv. Sub Reel		
	261	4-E	44A80392F01	Gear, Clutch		
	262	4-F	45A80393F01	Lever, Clutch		
	263	4-F	43A80394F01	Bush, Clutch		
	264	4-F	41A80395F01	Spring, Clutch		
	265	4-G	01V81200F63	Assy., Flywheel Bracket		
	266	2-B	45A80364F01	Lever, RF Lock		
	267	2-B	41B80444F05	Spring		
	268	2-B	01A80460F01	Assy., Riv. Play Solenoid		

NOTE : The parts without part numbers are not supplied.

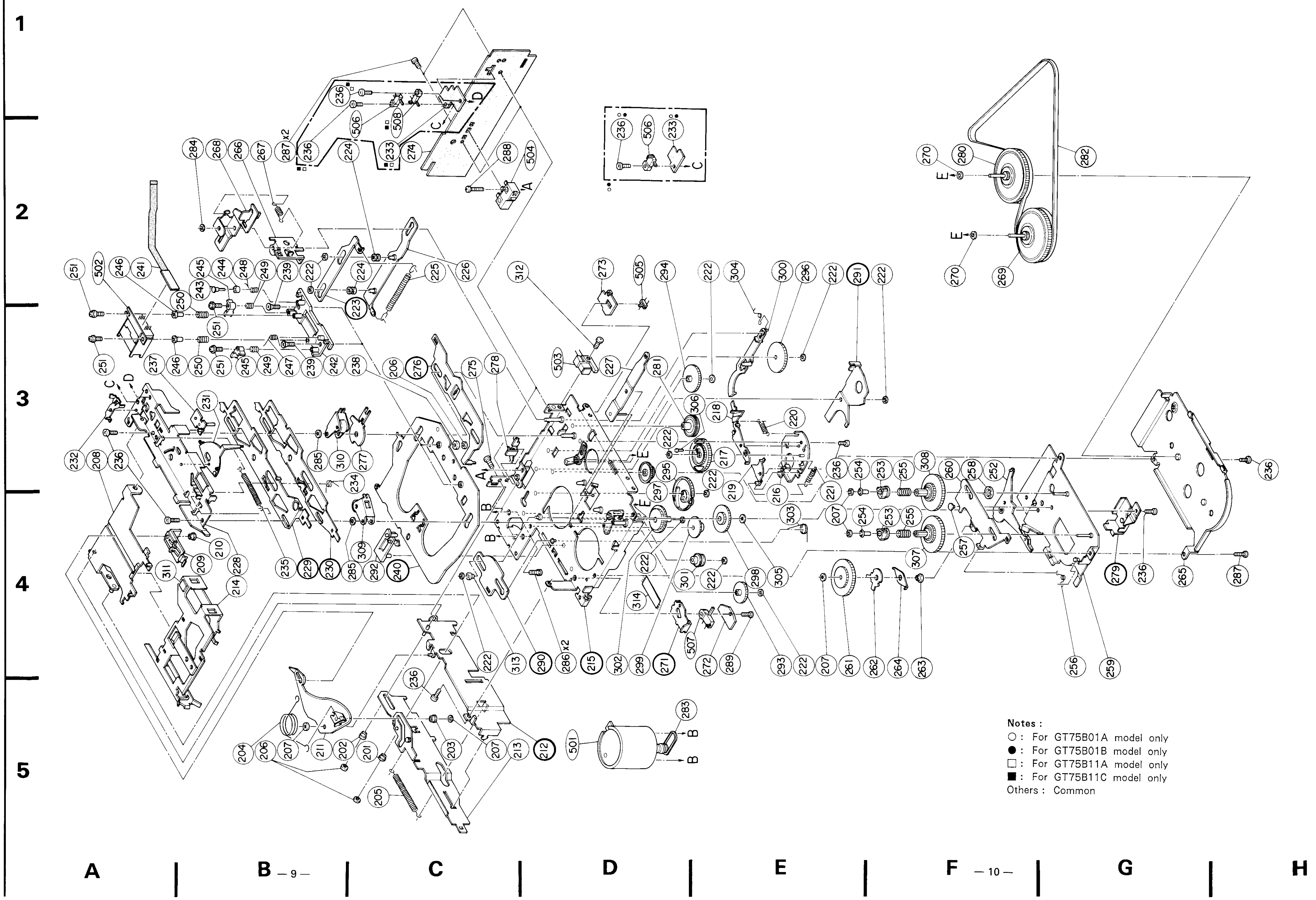
○ : For GT75B01A model only, ● : For GT75B01B model only, □ : For GT75B11A model only,
■ : For GT75B11C model only, Others : Common.

Symbol No.	Index	Part No.	Description		
269	2-F	01T63210F05	Assy., Flywheel		
270		04S40075G05	Washer, Polyslider (M2.1)		
272	4-E	84A82646F01	Metal Switch P. C. Board		
273	2-D	84A80432F01	Program Switch P. C. Board		
□ 274	2-C	01V84300F56	Assy., GT Control P. C. Board		
○ 274	2-C	01V81800F72	Assy., GT Control P. C. Board		
● 274	2-C	01V91700F39	Assy., GT Control P. C. Board		
■ 274	2-C	01V93300F91	Assy., GT Control P. C. Board		
275	3-C	03S44205G42	Screw, Pan (M2.6 × 4)		
277	3-C	45A80373F01	Lever, Program		
278	3-C	45A80375F01	Lever, Switch		
280	2-F	01T63210F06	Assy., Flywheel		
281	3-D	49A83022F01	Pully, Idler		
282	2-G	42A40969F01	Belt		
283	5-D	42A80397F01	Belt		
284	2-B	04A41345P14	Washer, Lock (M2.1)		
285		04A41345P25	Washer, Lock (M3.1)		
286	4-D	03D40014G12	Screw, W/Washer (M2.6 × 4)		
287		03S44205G07	Screw, Pan (M2.6 × 5)		
288	2-C	03S68259F06	Screw, Bind (M2.3 × 8)		
289	4-E	03S68259F03	Screw, Pan (M2 × 7)		
292	4-C	45A80387F01	Lever, Reel Brake		
293	4-E	44A63196F01	Gear, Take Up		
294	2-D	44A80382F01	Gear, Take Up		
295	3-D	44B80379F01	Gear, Pause		
296	2-E	44A80380F01	Gear, Reverse Act		
297	4-D	44A80381F01	Gear, Reverse Idler		
298	4-E	44A80383F01	Gear, Pause Idler		
299	4-D	44A80385F01	Gear, Motor Idler		
300	2-E	45B80388F01	Lever, Trigger		
301	4-D	44A80384F01	Gear, Pulley		
302	4-D	44A63197F01	Gear, RF Idler		
303	4-E	41A80447F01	Spring, Pack		
304	2-E	41A80449F01	Spring, Program Trigger		
305	4-E	04A41345P04	Washer, Lock (M2.6)		

Symbol No.	Index	Part No.	Description		
306	3-E	47A80423F01	Shaft, Change Gear		
307	4-F	01T80390F01	Assy., Reel		
308	3-F	01T80390F02	Assy., Reel		
309	4-C	01T80433F01	Assy., Pinch Roller		
310	3-B	01T80433F02	Assy., Pinch Roller		
311	4-A	43A90918F01	Spacer, Polyslider		
312	2-D	03S68259F09	Screw, Pan (M2 × 6)		
313	4-C	43A90769F01	Roller, Eject Com		
314	4-D	30T84002F01	Wire, Parallel 2P		
Miscellaneous					
501	5-D	01V81200F64	Assy., Motor		
○ 502	2-A	88T50977F01	Head, Playback		
● 502	2-A	88T50977F01	Head, Playback		
□ 502	2-A	88T74130F01	Head, Playback		
■ 502	2-A	88T74130F01	Head, Playback		
503	3-D	01T80451F01	Assy., Keep Solenoid		
504	2-D	40T52216F01	Switch, Micro		
505	2-D	40T63432F01	Switch, Slide		
506		40T71025F01	Switch, Detector		
507	4-E	40T71025F03	Switch, Detector		
□ 508	2-C	40T71025F03	Switch, Detector		
■ 508	2-C	40T71025F03	Switch, Detector		

NOTE : The parts without part numbers are not supplied.

Exploded View (1/3)



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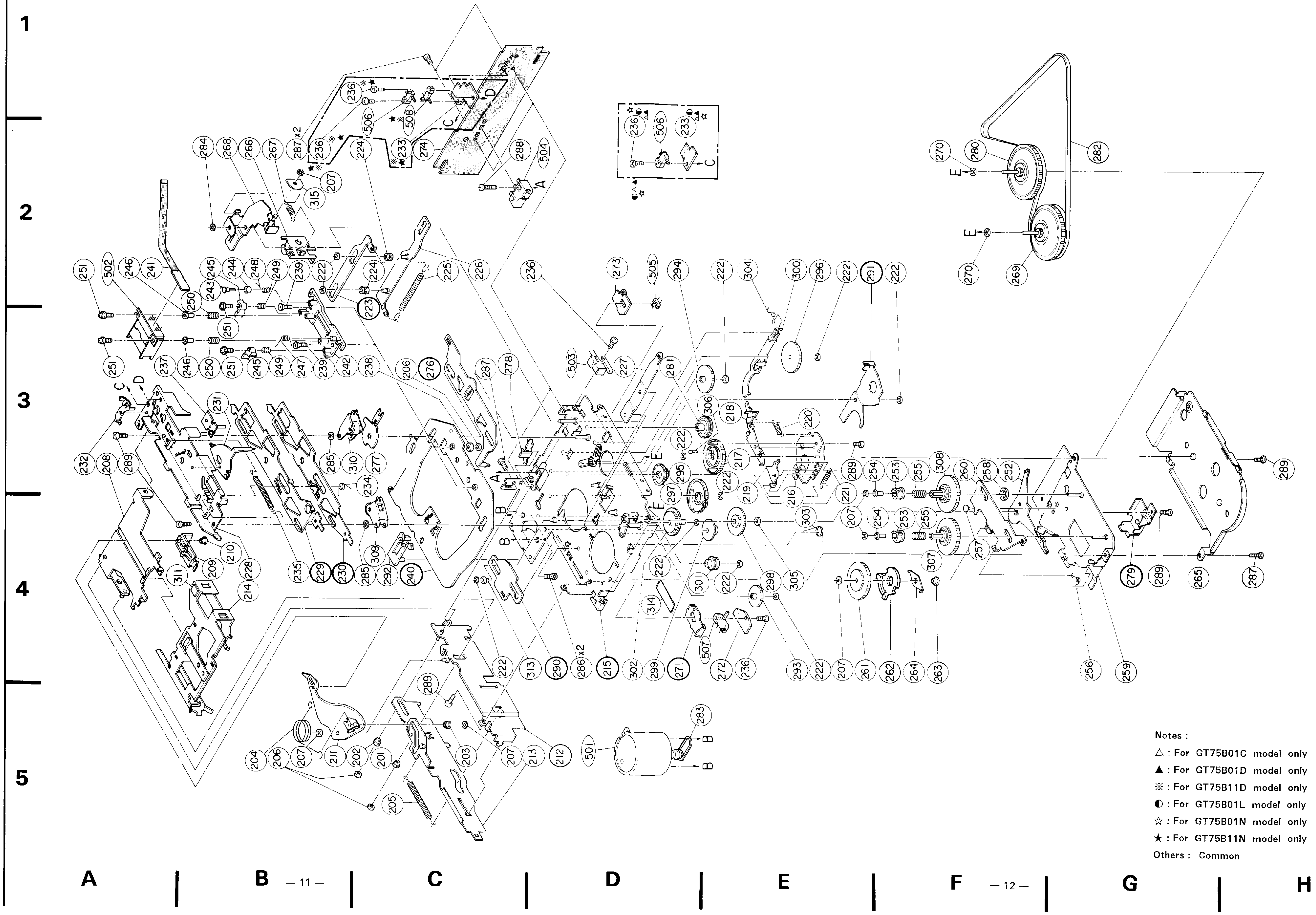
Notes :
○ : For GT75B01A model only
● : For GT75B01B model only
□ : For GT75B11A model only
■ : For GT75B11C model only
Others : Common

Exploded View (2/3)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Notes :

△ : For GT75B01C model only

▲ : For GT75B01D model only

※ : For GT75B11D model only

◐ : For GT75B01L model only

☆ : For GT75B01N model only

★ : For GT75B11N model only

Others : Common

Parts List (2/3)

△ : For GT75B01C model only, ▲ : For GT75B01D model only,
※ : For GT75B11D model only, ◐ : For GT75B01L model only,
☆ : For GT75B01N model only, ★ : For GT75B11N model only, Others : Common.

Symbol No.	Index	Part No.	Description		
201	5-C	43A63281F01	Roller, Plate Base		
202	5-C	43A63282F01	Roller, Eject Arm		
203	5-C	43A80430F01	Roller, Eject Arm (B)		
204	5-B	41A80448F01	Spring, Turn Eject		
205	5-C	41B80444F04	Spring		
206		04A41345P15	Washer, Lock (M1.2)		
207		04A41345P02	Washer, Lock (M1.7)		
208	3-A	01A82275F03	Assy., Riv. Plate Base		
209	4-B	45B10376W01	Slider		
210	4-B	47A63278F01	Shaft, Slider		
211	5-B	01A80457F01	Assy., Riv. Eject Arm		
213	5-D	01A80983F01	Assy., Riv. Eject Lever		
214	4-B	01A63494F01	Assy., Riv. Cassette Holder		
216	4-E	01A80461F01	Assy., Riv. Reverse Frame		
217	3-E	44B80378F01	Gear, Change		
218	3-E	45A80366F01	Lever, Reverse Lock		
219	4-E	45A80367F01	Lever, Reverse Act		
220	3-F	41B80444F02	Spring		
221	4-E	41B80444F03	Spring		
222		04A41345P01	Washer, Lock (M1.2)		
224		43A80431F01	Roller, Sub Head Base		
225	2-C	41B80444F01	Spring		
226	2-C	01A80454F01	Assy., Riv. Head Base Act		
227	3-D	01A80458F01	Assy., Riv. RF Arm		
228	4-B	07B80356F01	Bracket, RF Frame		
231	3-B	01A84687F01	Assy., Riv. RF Link		
232	3-A	45A80361F01	Lever, Mute		
※ 233	2-C	84A84245F01	Mute Switch P. C. Board		
▲ 233	2-D	84A82645F01	Mute Switch P. C. Board		
△ 233	2-D	84A82645F01	Mute Switch P. C. Board		
◐ 233	2-D	84A82645F01	Mute Switch P. C. Board		
☆ 233	2-D	84A82645F01	Mute Switch P. C. Board		
★ 233	2-C	84A84245F01	Mute Switch P. C. Board		
234	3-C	41A80446F01	Spring, RF Lever		
235	4-B	41B80444F06	Spring		
236		03S10042W02	Screw, Pan (M2 × 7)		
237	3-A	01A80459F01	Assy., Riv. Program Push Lever		
238	3-C	43A80427F01	Roller, Head Base (C)		
239		03S56479F07	Screw, Countersunk (M2.6 × 3)		
241	2-A	84T10306W01	Head P. C. Board		
242	3-B	07B80396F01	Frame, Head		
243	2-B	47A80493F01	Shaft, Head Frame		
244	2-B	43A80492F01	Roller, Head Frame		
245		43B63198F01	Tape, Guide		
246		43A80428F01	Roller, Head		
247	3-B	41A63286F03	Spring, Pinch Roller		
248	2-B	41A63286F04	Spring, Pinch Roller		
249		41A63290F01	Spring, Tape Guide		
250		41A80445F01	Spring, Head		
251		03S40019G03	Screw, F-Locks (M2 × 4)		
252	3-F	45A80386F01	Lever, Swing		
253		49A64626F01	Reel, Ring		
254		49A64627F01	Reel, Cap		
255		41A64628F01	Spring, Reel		
256	4-G	41A80450F01	Spring, Reel Clutch		
257	4-F	03A80490F01	Screw, Flat (M1.7 × 1.5)		
258	3-F	04S40075G23	Washer, Polyslider (M5.2)		
259	4-G	01A80462F01	Assy., Riv. Bracket Reel		
260	3-F	01A80463F01	Assy., Riv. Sub Reel		
261	4-E	44A80392F01	Gear, Clutch		
262	5-F	45A10318W01	Lever, Clutch		
263	4-F	43A80394F01	Bush, Clutch		
264	4-F	41A80395F01	Spring, Clutch		
265	4-G	01V81200F63	Assy., Flywheel Bracket		
266	2-B	45A80364F01	Lever, RF Lock		
267	2-B	41B80444F05	Spring		
268	2-B	01A94367F01	Assy., Riv. Play Solenoid		
269	2-F	01T63210F05	Assy., Flywheel		

NOTE : The parts without part numbers are not supplied.

△ : For GT75B01C model only, ▲ : For GT75B01D model only, ※ : For GT75B11D model only,
◐ : For GT75B01L model only, ☆ : For GT75B01N model only, ★ : For GT75B11N model only,
Others : Common.

Symbol No.		Index	Part No.	Description		
	270		04S40075G05	Washer, Polyslider (M2.1)		
	272	4-E	84A82646F01	Metal Switch P. C. Board		
	273	2-D	84A80432F01	Program Switch P. C. Board		
△	274	2-C	01V11300W54	Assy., GT Control P. C. Board		
☆	274	2-C	01V14300W94	Assy., GT Control P. C. Board		
▲	274	2-C	01V11400W38	Assy., GT Control P. C. Board		
※	274	2-C	01V11300W53	Assy., GT Control P. C. Board		
◐	274	2-C	01V14300W94	Assy., GT Control P. C. Board		
★	274	2-C	01V11300W53	Assy., GT Control P. C. Board		
	277	3-C	45A80373F01	Lever, Program		
	278	3-C	45A80375F01	Lever, Switch		
	280	2-F	01T63210F06	Assy., Flywheel		
	281	3-D	49A83022F01	Pully, Idler		
	282	2-G	42A40969F01	Belt		
	283	5-E	42A80397F01	Belt		
	284	2-B	04A41345P14	Washer, Lock (M2.1)		
	285		04A41345P25	Washer, Lock (M3.1)		
	286	4-D	03D40014G12	Screw, W/Washer (M2.6 × 4)		
	287		03S44205G07	Screw, Pan (M2.6 × 5)		
	288	2-C	03S68259F06	Screw, Bind (M2.3 × 8)		
	289		03S10042W11	Screw, Pan (M1.7 × 2.5)		
	292	4-C	45A80387F01	Lever, Reel Brake		
	293	4-E	44A63196F01	Gear, Take Up		
	294	2-D	44A80382F01	Gear, Take Up		
	295	3-D	44B80379F01	Gear, Pause		
	296	2-E	44A80380F01	Gear, Reverse Act		
	297	4-D	44A80381F01	Gear, Reverse Idler		
	298	4-E	44A80383F01	Gear, Pause Idler		
	299	4-D	44A80385F01	Gear, Motor Idler		
	300	2-E	45B80388F01	Lever, Trigger		
	301	4-E	44A80384F01	Gear, Pulley		
	302	4-D	44A63197F01	Gear, RF Idler		
	303	4-E	41A80447F01	Spring, Pack		
	304	2-E	41A80449F01	Spring, Program Trigger		
	305	4-E	04A41345P04	Washer, Lock (M2.6)		

Symbol No.		Index	Part No.	Description		
	306	3-E	47A80423F01	Shaft, Change Gear		
	307	4-F	01T80390F01	Assy., Reel		
	308	3-F	01T80390F02	Assy., Reel		
	309	4-C	01T80433F01	Assy., Pinch Roller		
	310	3-C	01T80433F02	Assy., Pinch Roller		
	311	4-B	43A90918F01	Spacer, Polyslider		
	313	4-D	43A90769F01	Roller, Eject Com		
	314	4-D	30T84002F01	Wire, Parallel 2P		
	315	2-B	76T95077F01	1Chip		
	316		03S44205G42	Screw, Pan (M2.6 × 4)		

Miscellaneous

△	501	5-D	01V11700W05	Assy., Motor		
▲	501	5-D	01V93800F53	Assy., Motor		
※	501	5-D	01V11700W05	Assy., Motor		
◐	501	5-D	01V11700W05	Assy., Motor		
☆	501	5-D	01V11700W05	Assy., Motor		
★	501	5-D	01V11700W05	Assy., Motor		
△	502	2-A	88T50977F02	Head, Playback		
▲	502	2-A	88T50977F02	Head, Playback		
※	502	2-A	88T74130F02	Head, Playback		
◐	502	2-A	88T50977F02	Head, Playback		
☆	502	2-A	88T50997F02	Head, Playback		
★	502	2-A	88T74130F02	Head, Playback		
	503	3-D	01T80451F01	Assy., Keep Solenoid		
	504	1-D	40T52216F01	Switch, Micro		
	505	2-D	40T63432F01	Switch, Slide		
	506		40T71025F01	Switch, Detect		
	507	4-E	40T71025F03	Switch, Detect		
※	508	1-C	40T71025F03	Switch, Detect		
★	508	1-C	40T71025F03	Switch, Detect		

NOTE : The parts without part numbers are not supplied.

Parts List (3/3)

◓ : For GT75L020 model only, ⬗ : For GT75L120 model only,
◨ : For GT75L02N model only, ◭ : For GT75L12N model only,
◆ : For GT75L220 model only, Others : Common.

Symbol No.		Index	Part No.	Description		
	201	5-C	43A63281F01	Roller, Plate Base		
	203	4-C	43A12105W01	Roller, Eject Arm (B)		
	204	5-B	41A12411W01	Spring, Turn Eject		
	205	5-C	41B80444F04	Spring		
	206	5-B	04A41345P15	Washer, Lock (M1.2)		
	207		04A41345P02	Washer, Lock (M1.7)		
	208	3-A	01A82275F03	Assy., Rivet Plate Base		
	209	4-B	45B10376W01	Slider		
	210		47A63278F01	Shaft, Slider		
	211	4-C	01A12405W01	Assy., Rivet Eject Arm		
	213		43A12087W01	Roller, Pack Guide		
	214		03S40011G47	Screw, Pan (M2 × 7)		
	216	4-E	01A12378W01	Assy., Rivet Reverse		
	217	3-E	44B80378F01	Gear, Change		
	218	3-E	45A80366F01	Lever, Reverse Lock		
	219	3-E	45A80367F01	Lever, Reverse ACT		
	220	3-E	41B50444F02	Spring		
	221	3-E	41B50444F03	Spring		
	222		04A41345P01	Washer, Lock (M1.2)		
	224	4-E	41A80447F01	Spring, Pack		
	225	2-C	41B80444F01	Spring		
	226	2-C	01A12406W01	Assy., Rivet Head Base ACT		
	227	3-D	01A80458F02	Assy., Rivet RF Arm		
	228	4-B	07B80356F02	Bracket RF Frame		
	231	4-B	01A84687F01	Assy., Rivet Link		
	232	2-B	76T95077F01	Chip		
	233	5-D	45B12076W01	Lever, Eject		
	234	3-C	41A80446F01	Spring, RF Lever		
	235	4-B	41B80444F06	Spring		
	236	4-E	44A63196F01	Gear, Take Up		
	237	3-A	01A80459F01	Assy., Rivet Program Push		
	238	4-B	07C63151F02	Holder, Cassette		
	241	2-A	84T15796W01	Head P. C. Board		
	242	1-B	07B12806W01	Frame, Head		
	243	2-B	47A80493F01	Shaft, Head Frame		

Symbol No.		Index	Part No.	Description		
	244	2-B	43A80492F01	Roller, Head Frame		
	247	2-B	41A63286F03	Spring, Pinch Roller		
	248	3-B	41A63286F04	Spring, Pinch Roller		
	249	2-E	44A80382F01	Gear, Take Up		
	250	1-B	41A13824W01	Spring, Head		
	251	2-A	03S40019G03	Screw, F−Lock (M2 × 4)		
	252	3-F	45A80386F01	Lever, Swing		
	253	2-B	45B12084W01	Lever, Play Solenoid		
	254	4-E	30T84002F01	Wire, Metal Switch		
	255	4-G	01V16100W82	Assy., Flywheel Bracket		
	256		41A80450F01	Spring, Reel Clutch		
	257	3-H	03A63557F02	Screw, Pan (M1.7 × 2.5)		
◓	258	2-C	01V14500W06	Assy., GT Control P. C. Board		
◨	258	2-C	01V14500W06	Assy., GT Control P. C. Board		
⬗	258	2-C	01V14500W48	Assy., GT Control P. C. Board		
◆	258	2-C	01V16800W37	Assy., GT Control P. C. Board		
◭	258	2-C	01V14500W48	Assy., GT Control P. C. Board		
	259		01T94245F01	Assy., Reel		
	260	4-G	01A12403W01	Assy., Rivet Bracket Reel		
	261	4-E	04A41345P04	Washer, Lock (M2.6)		
	262	4-E	44A80392F01	Gear, Clutch		
	263	4-F	45A10318W01	Lever, Clutch		
	264	4-F	43A80394F01	Bush, Clutch		
	265	4-F	41A80395F01	Spring, Clutch		
	266	2-E	41A80449F01	Spring, Program Trigger		
	267	4-D	44A63197F01	Gear, RF Idler		
	268	2-B	45A80364F01	Lever, RF Lock		
	269	2-B	41B80444F05	Spring		
	270	2-E	45B80388F01	Lever, Trigger		
	271		01T63210F05	Assy., Flywheel		
	272		04S40075G05	Washer Polyslider (M2.1)		
	274	4-E	84A82646F01	Metal Switch P. C. Board		
	275	4-E	44A12088W01	Gear, Motor Idler		
	276	4-E	44A80383F01	Gear, Pause Idler		
	277	3-D	44A80381F01	Gear, Reverse Idler		

NOTE : The parts without part numbers are not supplied.

◓ : For GT75L020 model only, ⬖ : For GT75L120 model only, ◨ : For GT75L02N model only,
▲ : For GT75L12N model only, ◆ : For GT75L220 model only, Others : Common.

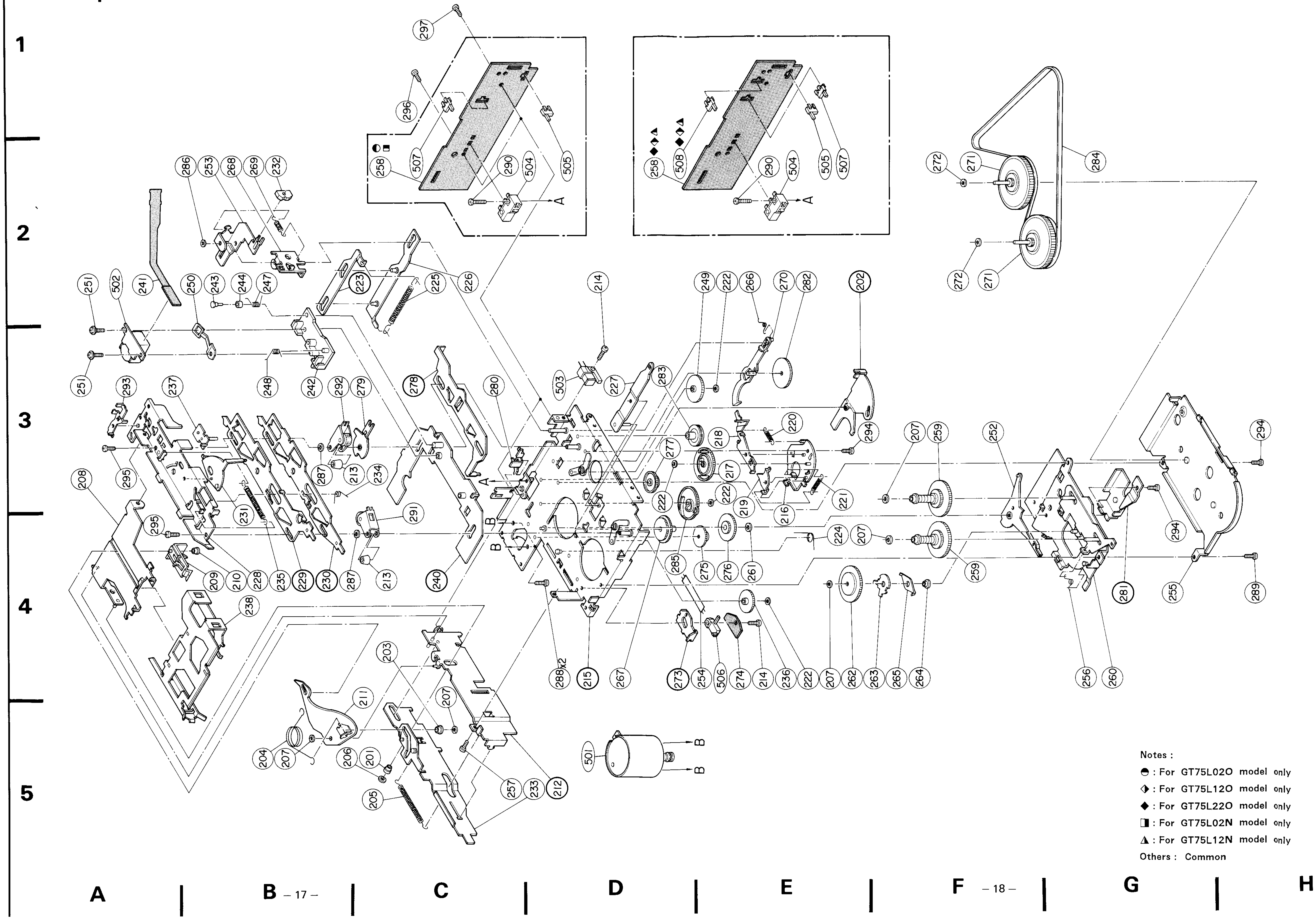
Symbol	No.	Index	Part No.	Description		
	279	3-C	45A80373F01	Lever, Program		
	280	3-C	45A80375F01	Lever, Switch		
	282	2-E	44A80380F01	Gear, Reverse ACT		
⬖	283	3-D	49A94719F01	Pully, Idler		
◓	283	3-D	49A94719F01	Pully, Idler		
◨	283	3-D	49A83022F01	Pully, Idler		
▲	283	3-D	49A83022F01	Pully, Idler		
◆	283	3-D	49A83022F01	Pulley, Idler		
	284		42A40969F01	Belt		
	285	4-D	44B80379F01	Gear, Pause		
	286	2-B	04A41345P14	Washer, Lock (M2.1)		
	287		04A41345P25	Washer, Lock (M3.1)		
	288	4-D	03D40014G67	Screw, W/Washer (M2.6 × 3.5)		
	289	2-B	03S44205G30	Screw, Pan (M2.6 × 7)		
	290		03S68259F06	Screw, Bind (M2.3 × 8)		
	291	4-C	01T15776W01	Assy., Pinch Roller		
	292	3-B	01T15776W02	Assy., Pinch Roller		
	293	3-B	45A12083W01	Lever, Switch Mute		
	294		03S43997P64	Screw, Pan (M1.7 × 3)		
	295		03S56479F27	Screw, Pan (M1.7 × 3)		
	296	1-C	03S44205G48	Screw, Pan (M2.6 × 5)		
⬖	297		03S44205G30	Screw, Pan (M2.6 × 4)		
◓	297		03S44205G30	Screw, Pan (M2.6 × 4)		
◨	297		03S44205G30	Screw, Pan (M2.6 × 4)		
▲	297		03S44205G30	Screw, Pan (M2.6 × 4)		
◆	297		03S44205G48	Screw, Pan (M2.6 × 5)		

Miscellaneous

Symbol	No.	Index	Part No.	Description		
	501	5-D	01V14500W41	Assy., Motor		
◓	502	2-A	88T15795W01	Head, Playback		
⬖	502	2-A	88T16375W01	Head, Playback		
◨	502	2-A	88T15795W01	Head, Playback		
▲	502	2-A	88T16375W01	Head, Playback		
◆	502	2-A	88T16153W01	Head, Playback		
	503		01T80451F01	Assy., Keep Solenoid		
	504	2-E	40T52216F01	Switch, Micro		
	505	2-E	40T71025F03	Switch, Detector		
	506		40T15222W01	Switch, Detector		
	507		40T15222W01	Switch, Detector		
◆	508	2-D	40T15222W01	Switch, Detector		
⬖	508	2-D	40T15222W01	Switch, Detector		
▲	508	2-D	40T15222W01	Switch, Detector		

NOTE : The parts without part numbers are not supplied.

Exploded View (3/3)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501
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C
D
E
F
G
H

Notes :

◓ : For GT75L02O model only

⬖ : For GT75L12O model only

◆ : For GT75L22O model only

◨ : For GT75L02N model only

◭ : For GT75L12N model only

Others : Common